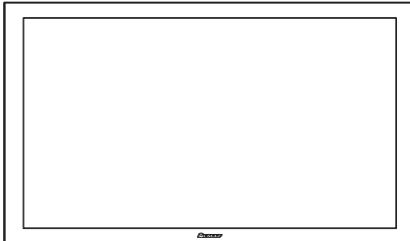


# Service Manual



ORDER NO.  
**ARP3404**

PDP-5016HD

PLASMA DISPLAY

# PDP-5016HD PDP-4216HD

THIS MANUAL IS APPLICABLE TO THE FOLLOWING MODEL(S) AND TYPE(S).

Model	Type	Power Requirement	Remarks
PDP-5016HD	KUCXC	AC 120 V	
PDP-4216HD	KUCXC	AC 120 V	



For details, refer to "Important Check Points for good servicing".

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# SAFETY INFORMATION

A



**This service manual is intended for qualified service technicians ; it is not meant for the casual do-it-yourselfer. Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual. Improperly performed repairs can adversely affect the safety and reliability of the product and may void the warranty. If you are not qualified to perform the repair of this product properly and safely, you should not risk trying to do so and refer the repair to a qualified service technician.**

## WARNING

- B This product contains lead in solder and certain electrical parts contain chemicals which are known to the state of California to cause cancer, birth defects or other reproductive harm.

Health & Safety Code Section 25249.6 - Proposition 65

## NOTICE

### (FOR CANADIAN MODEL ONLY)

Fuse symbols (fast operating fuse) and/or (slow operating fuse) on PCB indicate that replacement parts must be of identical designation.

## REMARQUE

### (POUR MODÈLE CANADIEN SEULEMENT)

- C Les symboles de fusible (fusible de type rapide) et/ou (fusible de type lent) sur CCI indiquent que les pièces de remplacement doivent avoir la même désignation.

## SAFETY PRECAUTIONS

NOTICE : Comply with all cautions and safety related notes located on or inside the cabinet and on the chassis.

The following precautions should be observed :

- 1. When service is required, even though the PDP UNIT an isolation transformer should be inserted between the power line and the set in safety before any service is performed.
- 2. When replacing a chassis in the set, all the protective devices must be put back in place, such as barriers, nonmetallic knobs, adjustment and compartment covershields, isolation resistor-capacitor, etc.
- 3. When service is required, observe the original lead dress. Extra precaution should be taken to assure correct lead dress in the high voltage circuitry area.
- 4. Always use the manufacture's replacement components. Especially critical components as indicated on the circuit diagram should not be replaced by other manufacture's.
- E Furthermore where a short circuit has occurred, replace those components that indicate evidence of overheating.
- 5. Before returning a serviced set to the customer, the service technician must thoroughly test the unit to be certain that it is completely safe to operate without danger of electrical shock, and be sure that no protective device built into the set by the manufacture has become defective, or inadvertently defeated during servicing. Therefore, the following checks should be performed for the continued protection of the customer and servicetechnician.

6. Perform the following precautions against unwanted radiation and rise in internal temperature.

- Always return the internal wiring to the original styling.
- Attach parts (Gasket, Ferrite Core, Ground, Rear Cover, Shield Case etc.) surely after disassembly.
- 7. Perform the following precautions for the PDP panel.
- When the front case is removed, make sure nothing hits the panel face, panel corner, and panel edge (so that the glass does not break).
- Make sure that the panel vent does not break. (Check that the cover is attached.)
- Handle the FPC connected to the panel carefully. Twisting or pulling the FPC when connecting it to the connector will cause it to peel off from the panel.
- 8. Pay attention to the following.
- When the front case is removed, infrared ray is radiated and may disturb reception of the remote control unit.
- Pay extreme caution when the front case and rear panel are removed because this may cause a high risk of disturbance to TVs and radios in the surrounding.

F

## Leakage Current Cold Check

With the AC plug removed from an AC power source, place a jumper across the two plug prongs. Turn the AC power switch on. Using an insulation tester (DC 500V), connect one lead to the jumpered AC plug and touch the other lead to each exposed metal part (input/output terminals, screwheads, metal overlays, control shafts, etc.), particularly any exposed metal part having a return path to the chassis. Exposed metal parts having a return path to the chassis should have a minimum resistor reading of  $4\text{ M}\Omega$ . The below  $4\text{ M}\Omega$  resistor value indicate an abnormality which require corrective action. Exposed metal parts not having a return path to the chassis will indicate an open circuit.

## Leakage Current Hot Check

Plug the AC line cord directly into an AC power source (do not use an isolation transformer for this check).

Turn the AC power switch on.

Using a "Leakage Current Tester (Simpson Model 229 equivalent)", measure for current from all exposed metal parts of the cabinet (input/output terminals, screwheads, metal overlays, control shaft, etc.), particularly any exposed metal part having a return path to the chassis, to a known earth ground (water pipe, conduit, etc.). Any current measured must not exceed 1mA.

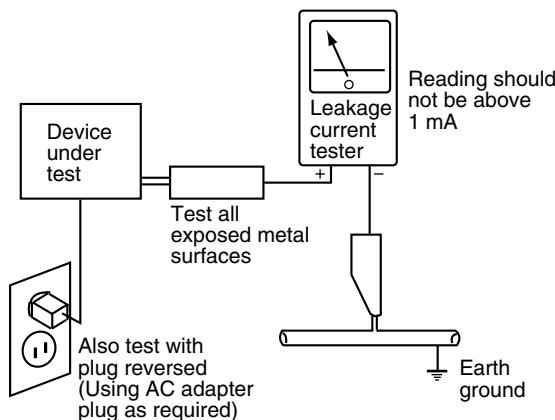
## PRODUCT SAFETY NOTICE

Many electrical and mechanical parts in PIONEER set have special safety related characteristics. These are often not evident from visual inspection nor the protection afforded by them necessarily can be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in this Service Manual.

Electrical components having such features are identified by marking with a  $\triangle$  on the schematics and on the parts list in this Service Manual.

The use of a substitute replacement component which does not have the same safety characteristics as the PIONEER recommended replacement one, shown in the parts list in this Service Manual, may create shock, fire or other hazards.

Product Safety is continuously under review and new instructions are issued from time to time. For the latest information, always consult the current PIONEER Service Manual. A subscription to, or additional copies of, PIONEER Service Manual may be obtained at a nominal charge from PIONEER.



AC Leakage Test

**ANY MEASUREMENTS NOT WITHIN THE LIMITS  
OUTLINED ABOVE ARE INDICATIVE OF A POTENTIAL  
SHOCK HAZARD AND MUST BE CORRECTED BEFORE  
RETURNING THE SET TO THE CUSTOMER.**

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## A ■ Charged Section

The places where the commercial AC power is used without passing through the power supply transformer.

If the places are touched, there is a risk of electric shock. In addition, the measuring equipment can be damaged if it is connected to the GND of the charged section and the GND of the non-charged section while connecting the set directly to the commercial AC power supply. Therefore, be sure to connect the set via an insulated transformer and supply the current.

- B 1. Power Cord
- 2. SUB EMI Filter Assy
- 3. SUB Power Switch (S1) Assy
- 4. Fuse (In the POWER SUPPLY Unit)
- 5. STB Transformer and Converter Transformer  
(In the POWER SUPPLY Unit)
- 6. Other primary side of the POWER SUPPLY Unit

## • PDP-5016HD

- C [ ] : Part is Charged Section.  
 [ ] : Part is the High Voltage Generating Points other than the Charged Section.

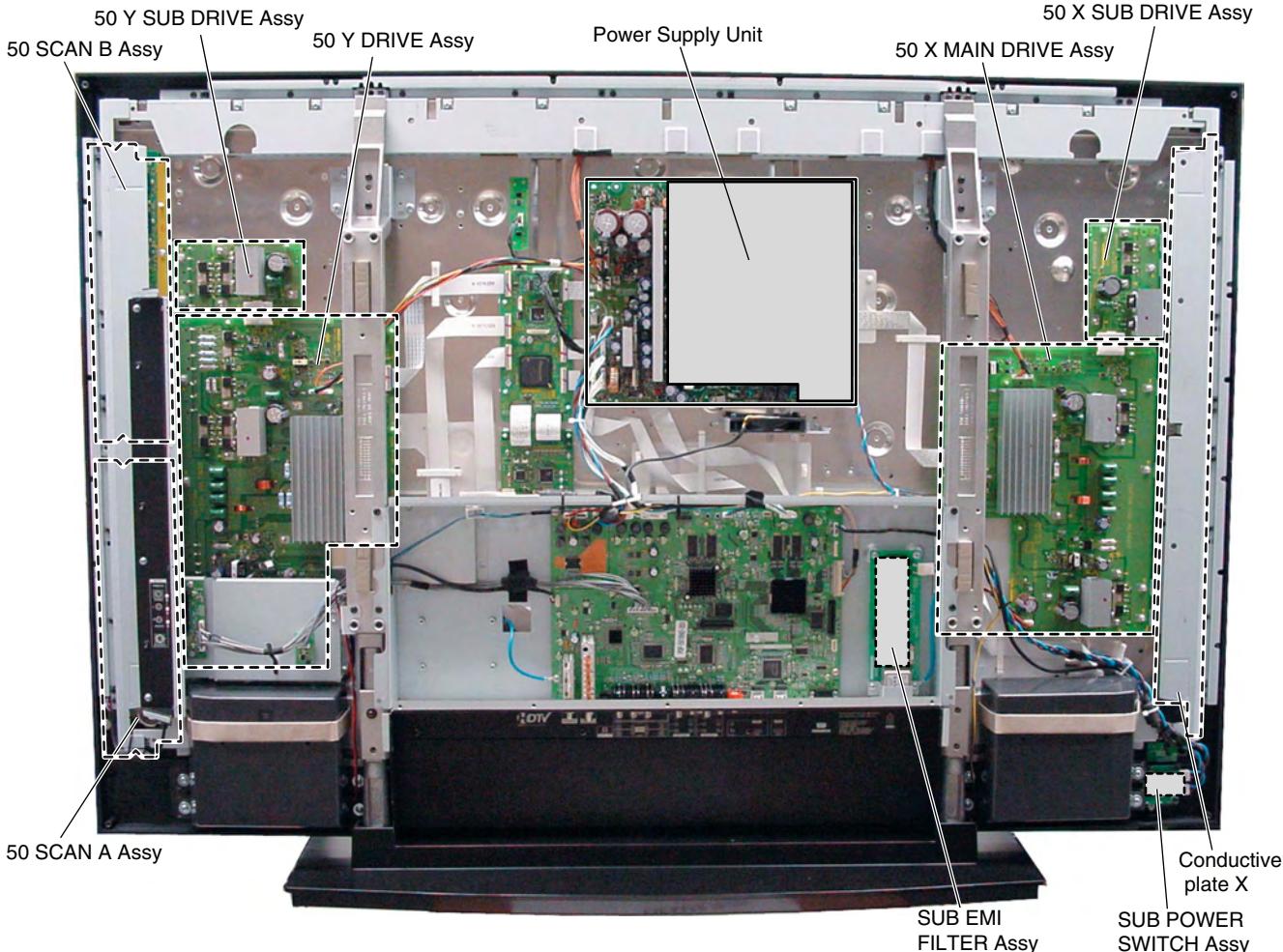


Fig.1 High Voltage Generating Point (Rear view)

## ■ Charged Section

The places where the commercial AC power is used without passing through the power supply transformer. If the places are touched, there is a risk of electric shock. In addition, the measuring equipment can be damaged if it is connected to the GND of the charged section and the GND of the non-charged section while connecting the set directly to the commercial AC power supply. Therefore, be sure to connect the set via an insulated transformer and supply the current.

1. Power Cord
2. SUB EMI Filter Assy
3. SUB Power Switch (S1) Assy
4. Fuse (In the POWER SUPPLY Unit)
5. STB Transformer and Converter Transformer  
(In the POWER SUPPLY Unit)
6. Other primary side of the POWER SUPPLY Unit

## • PDP-4216HD

[---] : Part is Charged Section.

[ ] : Part is the High Voltage Generating Points other than the Charged Section.

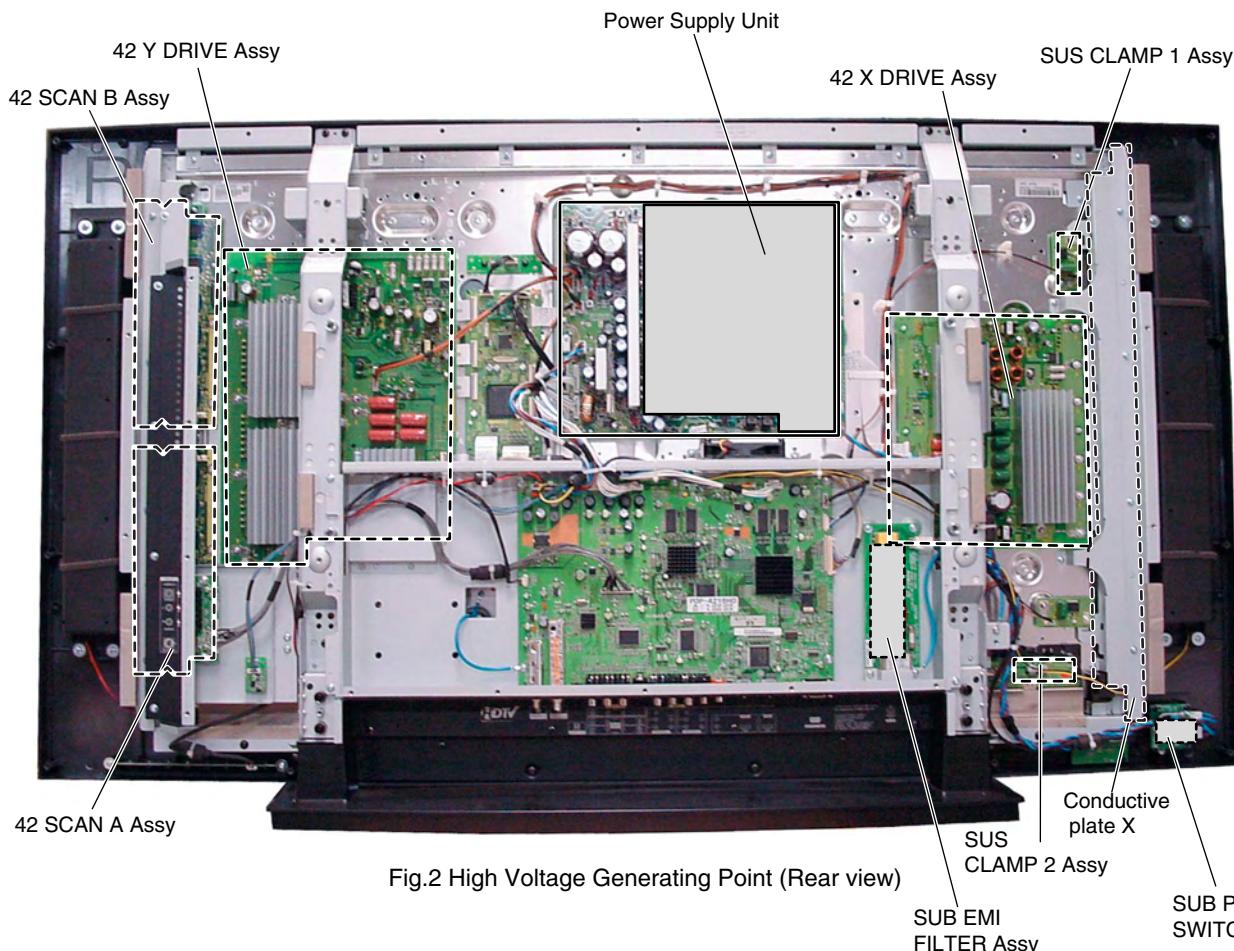


Fig.2 High Voltage Generating Point (Rear view)

## ■ High Voltage Generating Point

The places where voltage is 100 V or more except for the charged places described above. If the places are touched, there is a risk of electric shock.

The VSUS voltage remains for several minutes after the power to the unit is turned off. These places must not be touched until about 10 minutes after the power is turned off, or it is confirmed with a tester that there is no residual VSUS voltage.

If the procedures described in "10.3 POWER ON/OFF FUNCTION FOR THE LARGE-SIGNAL SYSTEM" are performed before the power is turned off, the voltage will be discharged in about 30 seconds.

POWER SUPPLY UNIT .....	(205 V)
42 X DRIVE Assy.....	(500 V)
42 Y DRIVE Assy.....	(500 V)
42 SCAN A Assy.....	(500 V)
42 SCAN B Assy.....	(500 V)
SUS CLAMP 1 Assy.....	(-180 V to 205 V)
SUS CLAMP 2 Assy.....	(-180 V to 205 V)

A

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## [Important Check Points for Good Servicing]

In this manual, procedures that must be performed during repairs are marked with the below symbol.  
Please be sure to confirm and follow these procedures.

### A 1. Product safety



Please conform to product regulations (such as safety and radiation regulations), and maintain a safe servicing environment by following the safety instructions described in this manual.

① Use specified parts for repair.

Use genuine parts. Be sure to use important parts for safety.

② Do not perform modifications without proper instructions.

Please follow the specified safety methods when modification(addition/change of parts) is required due to interferences such as radio/TV interference and foreign noise.

③ Make sure the soldering of repaired locations is properly performed.

When you solder while repairing, please be sure that there are no cold solder and other debris.  
Soldering should be finished with the proper quantity. (Refer to the example)

④ Make sure the screws are tightly fastened.

Please be sure that all screws are fastened, and that there are no loose screws.

⑤ Make sure each connectors are correctly inserted.

Please be sure that all connectors are inserted, and that there are no imperfect insertion.

⑥ Make sure the wiring cables are set to their original state.

Please replace the wiring and cables to the original state after repairs.  
In addition, be sure that there are no pinched wires, etc.

⑦ Make sure screws and soldering scraps do not remain inside the product.

Please check that neither solder debris nor screws remain inside the product.

⑧ There should be no semi-broken wires, scratches, melting, etc. on the coating of the power cord.

Damaged power cords may lead to fire accidents, so please be sure that there are no damages.  
If you find a damaged power cord, please exchange it with a suitable one.

⑨ There should be no spark traces or similar marks on the power plug.

When spark traces or similar marks are found on the power supply plug, please check the connection and advise on secure connections and suitable usage. Please exchange the power cord if necessary.

⑩ Safe environment should be secured during servicing.

D When you perform repairs, please pay attention to static electricity, furniture, household articles, etc. in order to prevent injuries.  
Please pay attention to your surroundings and repair safely.

### E 2. Adjustments



To keep the original performance of the products, optimum adjustments and confirmation of characteristics within specification.  
Adjustments should be performed in accordance with the procedures/instructions described in this manual.

### E 3. Lubricants, Glues, and Replacement parts



Use grease and adhesives that are equal to the specified substance.  
Make sure the proper amount is applied.

### E 4. Cleaning



For parts that require cleaning, such as optical pickups, tape deck heads, lenses and mirrors used in projection monitors, proper cleaning should be performed to restore their performances.

### E 5. Shipping mode and Shipping screws



To protect products from damages or failures during transit, the shipping mode should be set or the shipping screws should be installed before shipment. Please be sure to follow this method especially if it is specified in this manual.

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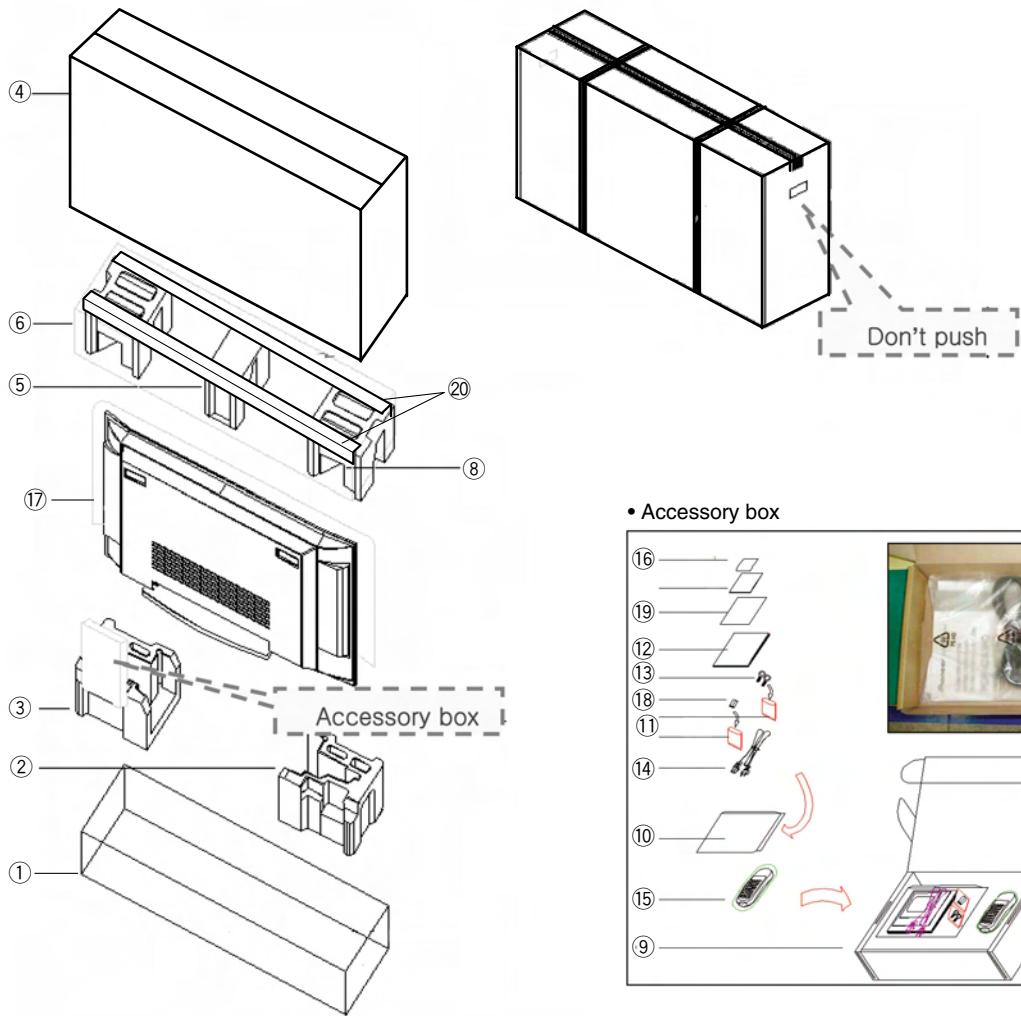
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# 1. EXPLODED VIEWS AND PARTS LIST

- NOTES:**
- Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.
  - The  mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
  - Screws adjacent to  mark on product are used for disassembly.
  - For the applying amount of lubricants or glue, follow the instructions in this manual.  
(In the case of no amount instructions, apply as you think it appropriate.)

## 1.1 PDP-5016HD

### 1.1.1 PACKING SECTION

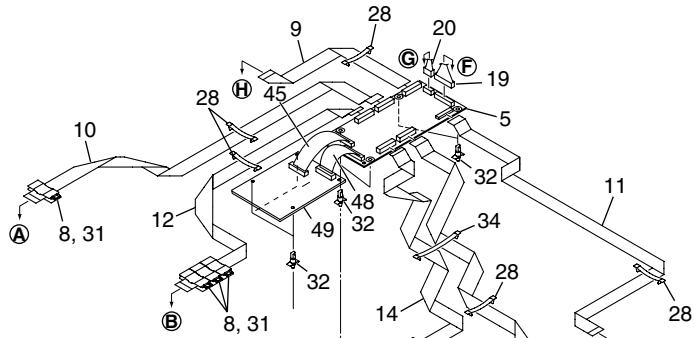


### (2) PACING PARTS LIST

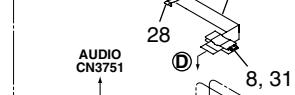
Mark No.	Description	Part No.	Mark No.	Description	Part No.
1	Gift Box-Bottom	30701-16-001	11	Bag Vinyl Zipper	10711-02-002
2	Cushion Bottom-Left	30711-12-004	12	Operating Instructions	20010-1320
3	Cushion Bottom-Right	30711-12-005	13	Stay Bolt (Steel, M8x12)	30191-02-001
4	Gift Box-Top	30701-15-001	⚠ 14	Power Cord	01300-0390
5	Cushion Top-Center	30711-12-003	15	Remote Control unit	01400-0850
6	Cushion Top-Right	30711-12-002	16	Wiping Cloth	AED1285
7	•••••		17	Packing Sheet	AHG1352
8	Cushion Top-Left	30711-12-001	NSP 18	Battery	•••••
9	Accessory Box	30751-04-000	NSP 19	Warranty Card	•••••
10	Bag Vinyl B (260 x 360 x 0.03)	10711-01-002	NSP 20	Paper Angle	30740-03-002

## 1.1.2 CHASSIS SECTION

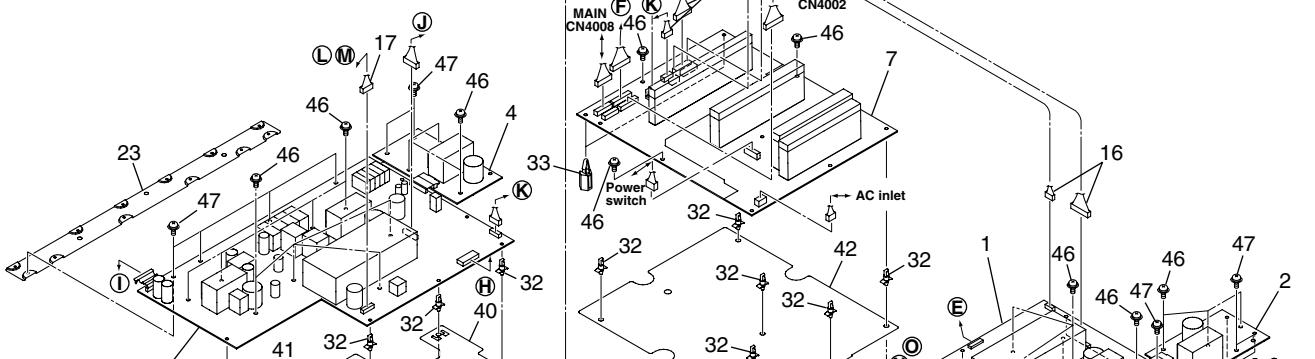
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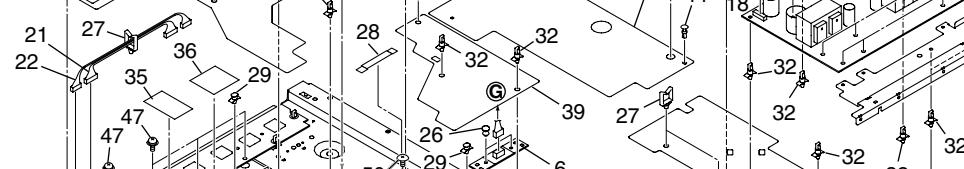
B



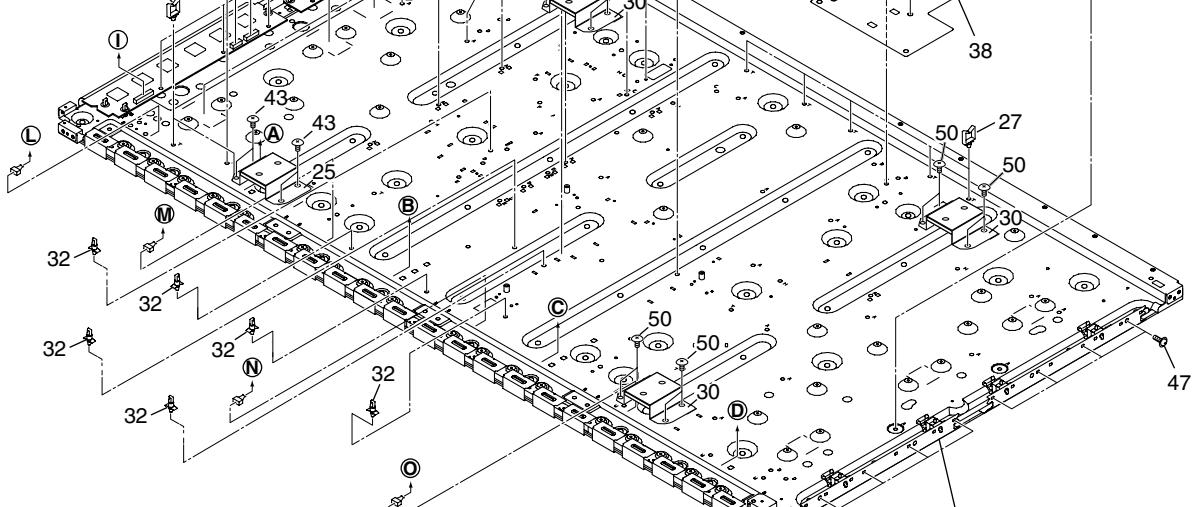
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5

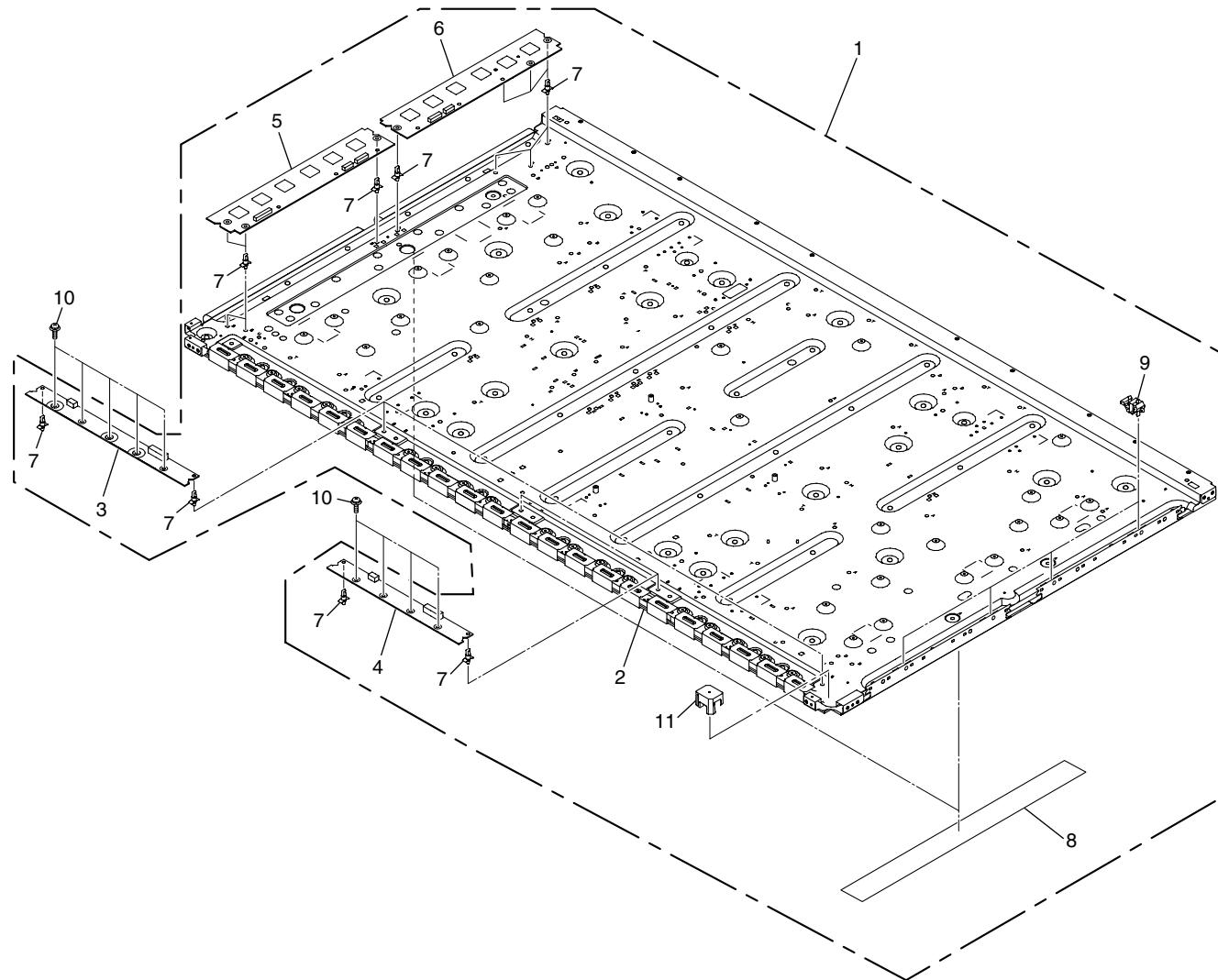
Refer to  
"1.1.3 PANEL CHASSIS SECTION".

## CHASSIS SECTION (2/2) PARTS LIST

<u>Mark No.</u>	<u>Description</u>	<u>Part No.</u>	<u>Mark No.</u>	<u>Description</u>	<u>Part No.</u>
1	50 X MAIN DRIVE Assy	AWW1143	50	Screw	ABA1355
2	50 X SUB DRIVE Assy	AWW1144			A
3	50 Y MAIN DRIVE Assy	AWW1145			
4	50 Y SUB DRIVE Assy	AWW1146			
5	50 DIGITAL Assy	AWW1139			
6	SENSOR Assy	AWW1140			
△ 7	POWER SUPPLY Unit	AXY1153			
8	Ferrite Core	ATX1048			
9	Flexible Cable (J1201)	ADD1435			
10	Flexible Cable (J1202)	ADD1436			
11	Flexible Cable (J1203)	ADD1440			B
12	Flexible Cable (J1205)	ADD1463			
13	Flexible Cable (J1208)	ADD1473			
14	Flexible Cable (J1207)	ADD1466			
15	9P&6P Housing Wire (J1213)	ADX3386			
16	8P&5P Housing Wire (J1214)	ADX3418			
17	8P/4P Housing Wire (J1215)	ADX3419			
18	8P/4P Housing Wire (J1216)	ADX3420			
19	14P Housing Wire (J1211)	ADX3354			
20	5P Housing Wire (J1212)	ADX3359			C
21	10P Housing Wire (J1209)	ADX3300			
22	4P Housing Wire (J1210)	ADX3346			
23	Conductive Plate Y	ANG2902			
24	Conductive Plate X	ANG2905			
25	Mount Bracket	ANG3020			
26	Nyron Rivet	AEC1671			
27	Wire Saddle	AEC1745			
28	Flat Clamp	AEC1879			
29	PCB Support	AEC1938			D
30	Mount Bracket	ANG2813			
31	Ferrite Clamp	AEC1986			
32	Re-use PCB Spacer	AEC2087			
33	Tapping Card Spacer	AEC2103			
34	Flat Clamp 60	AEC2104			
35	Drive Silicone Sheet B	AEH1109			
36	Drive Silicone Sheet C	AEH1110			
37	Power Supply Sheet B (507)	AMR3555			
38	Address Sheet A	AMR3615			E
39	Address Sheet B	AMR3629			
40	Address Sheet C	AMR3630			
41	Address Sheet D	AMR3631			
42	Power Supply Sheet (507)	AMR3634			
43	Screw	ABA1362			
44	Rivet A	BEC1158			
45	Flexible Cable (J1204)	ADD1448			
46	Screw	ABA1313			
47	Screw	ABA1364			F
48	Flexible Cable (J1205)	ADD1449			
49	INTERFACE ASSY	AWV2373			

### 1.1.3 PANEL CHASSIS SECTION

A



B

C

D

E

F

**PANEL CHASSIS SECTION PARTS LIST**

<b>Mark No.</b>	<b>Description</b>	<b>Part No.</b>
NSP 1	Panel Chassis (507) Assy	AWU1148
NSP 2	Plasma Panel (50DC) Assy	AWU1162
NSP 3	50 ADDRESS L Assy	AWW1141
NSP 4	50 ADDRESS S Assy	AWW1142
NSP 5	50 SCAN A Assy	AWW1147
NSP 6	50 SCAN B Assy	AWW1148
7	Re-use PCB Spacer	AEC2088
NSP 8	Adhesive Tape (50)	AEH1119
9	Conductive Plate Holder	AMR3446
10	Screw	ABA1351
NSP 11	Tube Cover	AMR3445

A

B

C

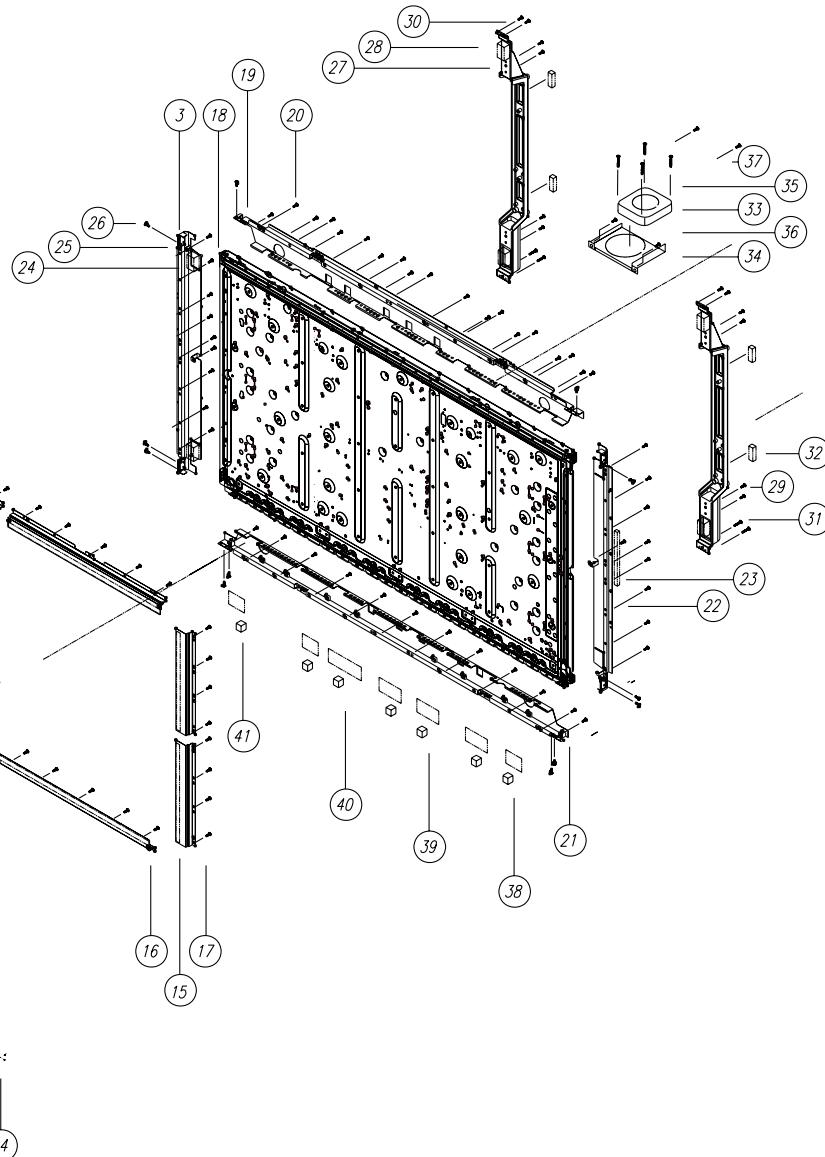
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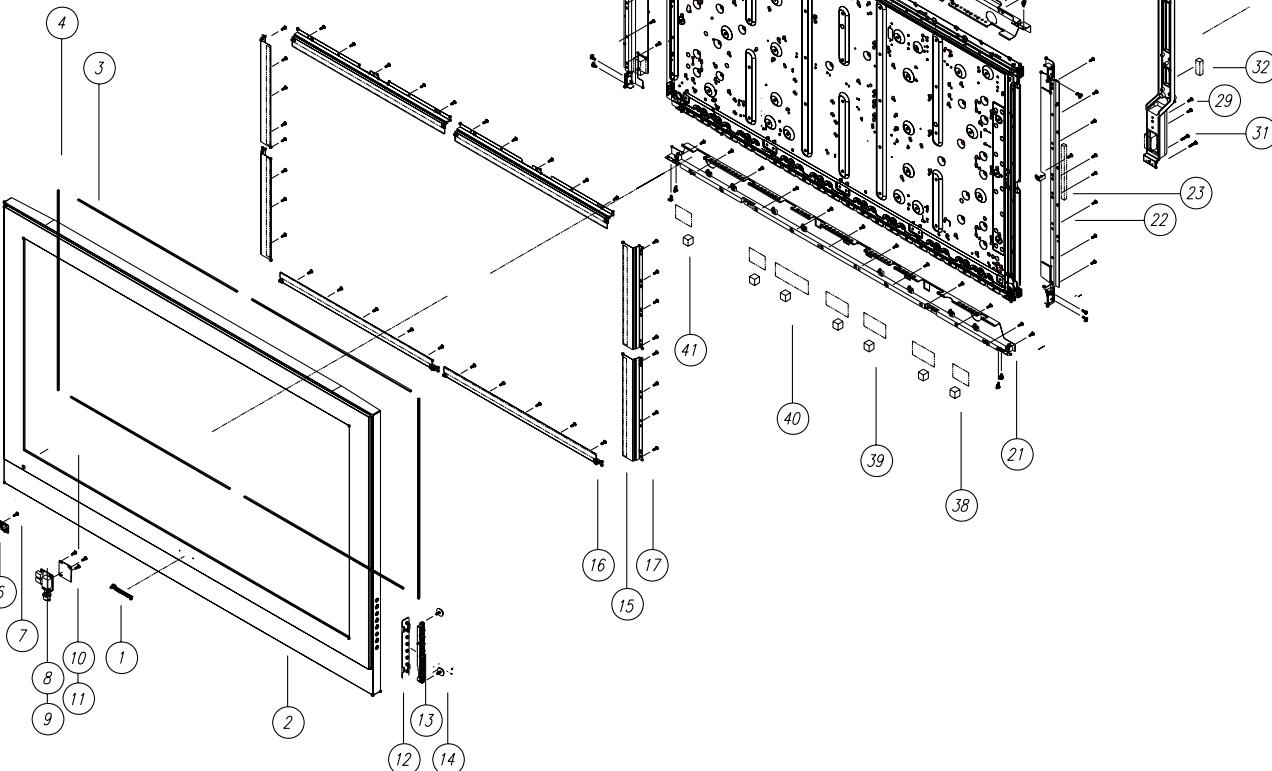
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■ 1 ■ 2 ■ 3 ■ 4  
1.1.4 EXTERIOR SECTION (1/3)

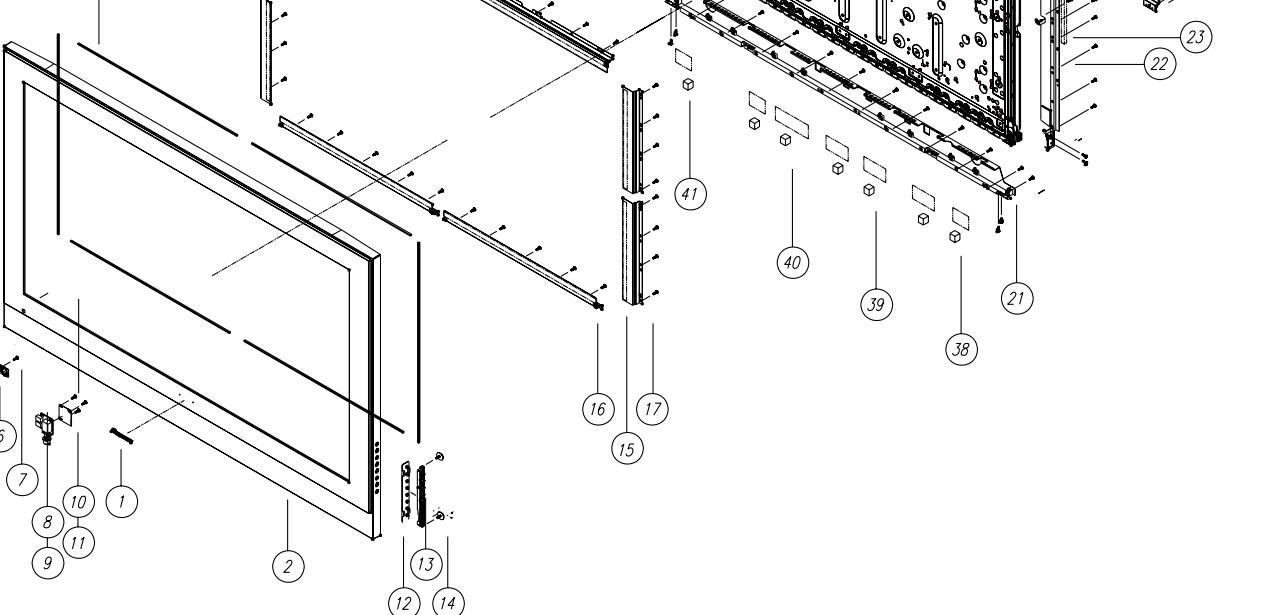
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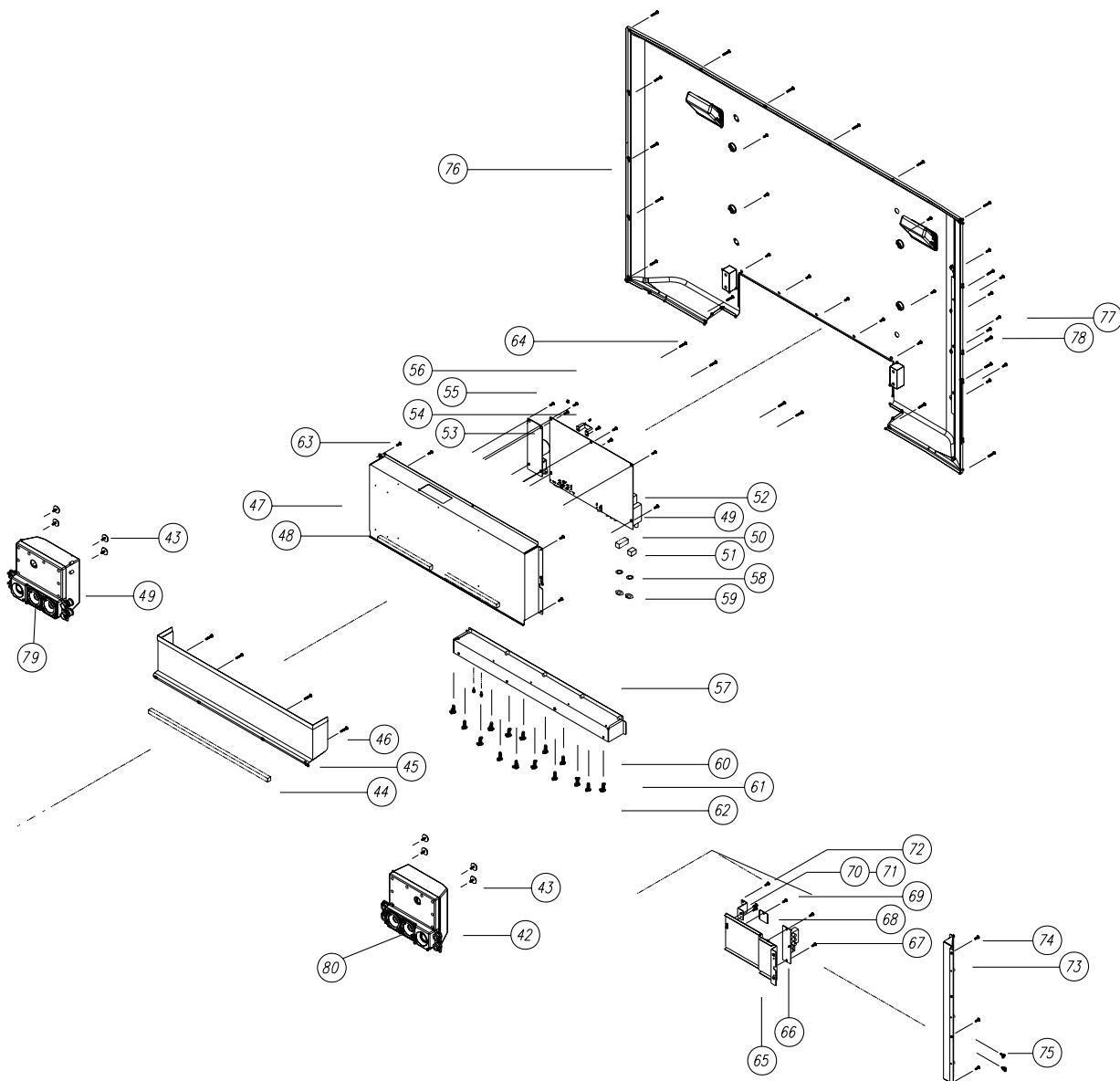
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D  
**(1) EXTERIOR SECTION (1/2) PARTS LIST**

<u>Mark No.</u>	<u>Description</u>	<u>Part No.</u>	<u>Mark No.</u>	<u>Description</u>	<u>Part No.</u>
1	Pioneer Badge	AAM1113	22	Brkt Module Ver L	30163-05-001
2	A'ssy Cabinet Front	01421-0420	23	Emi Gasket 15 X 16 X 260	02900-0340
3	Cushion M-Hor	30331-04-001	24	Brkt Module Ver R	30163-06-001
4	Cushion M-Ver	30331-05-001	25	Emi Gasket 26 X 26 X 40	02900-0310
5	A'ssy Window LED	01421-0490	26	Screw T3 x 8	M1318300815
6	SUB IR&LED Assy	220-2208	27	Brkt V-Supporter	30161-04-001
7	Screw T3 x 8	M1305300817	28	EMI Gasket 26 X 26 X 40	02900-0310
8	SUB POWER SWITCH Assy	150-2070	29	Screw M4 x 12	M1040401217
9	Knob Power	30251-08-001	30	Screw M4 x 10	M1300411017
10	Insulation Sheet-Power	30321-08-001	31	Screw T4 x 16	M1305401617
11	Screw T3 x 8	M1305300817	32	EMI Gasket 13 X 15 X 51	02900-0230
12	Knob Control	30252-13-001	33	Fan D08R-12TL 24B	10511-10-001
13	SUB KEY Assy	220-2206	34	Brkt Fan	30172-03-001
14	Screw T3 x 12	M1308301215	35	Screw M4x20	M1040402017
15	A'ssy Brkt Filter Ver	01421-0400	36	Screw T3 x 8	M1318300815
16	A'ssy Brkt Filter Hor	01421-0410	37	Screw M4X 6	M1033400615
17	Screw M4 x 10	M1300411017	38	EMI Tape 25 X 40	02900-0390
F NSP 18	PDP Chassis Assy	AWU1148	39	EMI Tape 25 X 80	02900-0400
19	Brkt Module Hor Top	01421-0450	40	EMI Tape 25 X100	02900-0410
20	Screw M4x 8	M1040400815	41	Cushion Module	30331-06-001
21	Brkt Module Hor Bot	30164-07-001			

## 1.1.5 EXTERIOR SECTION (2/3)



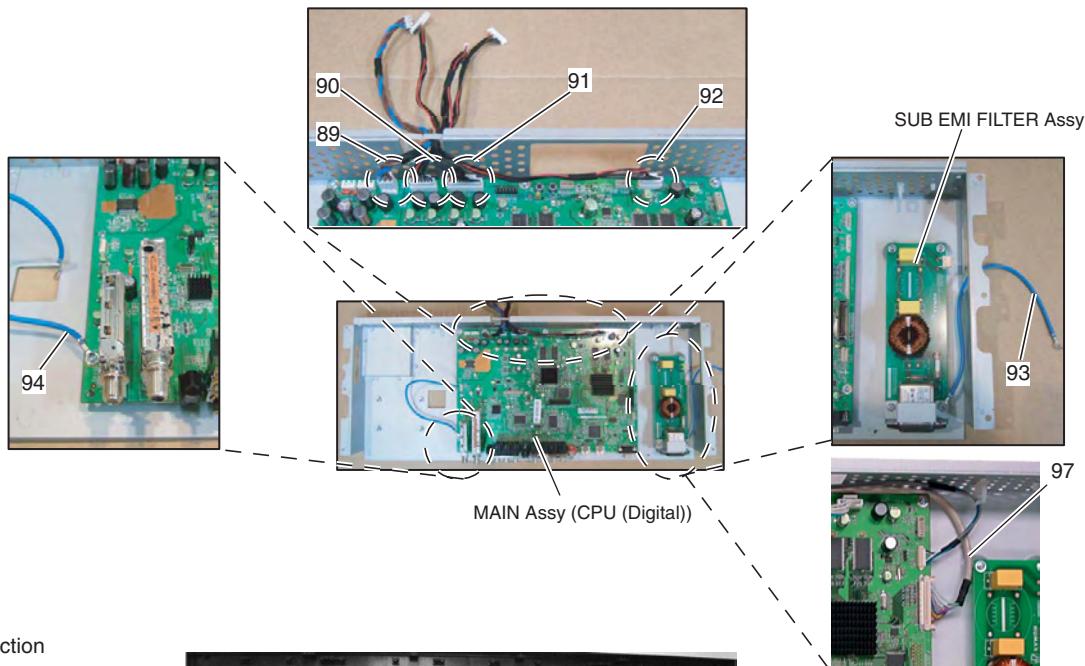
### (1) EXTERIOR SECTION (2/2) PARTS LIST

Mark No.	Description	Part No.	Mark No.	Description	Part No.
42	Speaker R 6 Ohm 20w / S	02400-0300	61	Screw M3 x 8	M1040300815
43	Screw T4 x 14	M1308401415	62	Screw M3 x 8	M1116300805
44	EMI Gasket 15 X 20 X 576	02900-0380	63	Screw M4 x 8	M1015400817
45	Brkt Rear Bottom	30104-10-001	64	Screw M4 x 8	M1015400817
46	Screw T4 x 16	M1305401617	65	Brkt Sub Side AV	01421-0440
47	Ass'y Shield Main	01434-0080	66	SUB SIDE AV Assy	220-2204
48	EMI Gasket 15 X 16X 260	02900-0340	67	Screw M3 x 8	M1040300815
49	MAIN ASSY (CPU (Digital))	010-2863	68	SUB THERMAL SENSOR Assy	220-2207
50	EMI Gasket 15 X 5 X 20	02900-0280	69	Screw M3x 8	M1040300815
51	EMI Gasket 15 X 10 X 30	02900-0250	70	Brkt Sub Side A	01421-0430
52	Screw M3 x 8	M1040300815	71	Screw T3 x 8	M1318300815
53	SUB EMI Filter Assy	150-2080	72	Screw M4x 8	M1015400817
54	Brkt N-Filter	30173-01-000	73	Brkt Side AV-USA	30166-05-002
55	Screw M3 x 8	M1040300815	74	Screw M3x 8	M1040300815
56	Screw M4X 6	M1033400615	75	Screw T3 x 8	M1305300817
57	Brkt Main AV-USA	30165-05-001	76	A'ssy Back	01428-0140
58	Washer Pai10	M1231111002	77	Screw M4x 8	M1015400817
59	Nut Unf 3/8 inchx 32	M1211210002	78	Screw T4 x 16	M1305401617
60	Screw M4 x 8	M1015400817	79	Speaker L 6 Ohm 20w / S	02400-0290
			80	Speaker R 6 Ohm 20w / S	02400-0300

## 1.1.6 EXTERIOR SECTION (3/3)

- Main Section

A



- Front Section

C

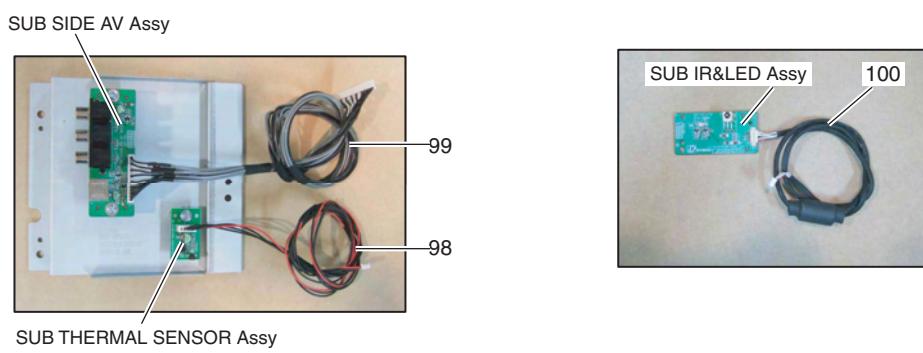


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- Side AV Section

- SUB IR & LED Section

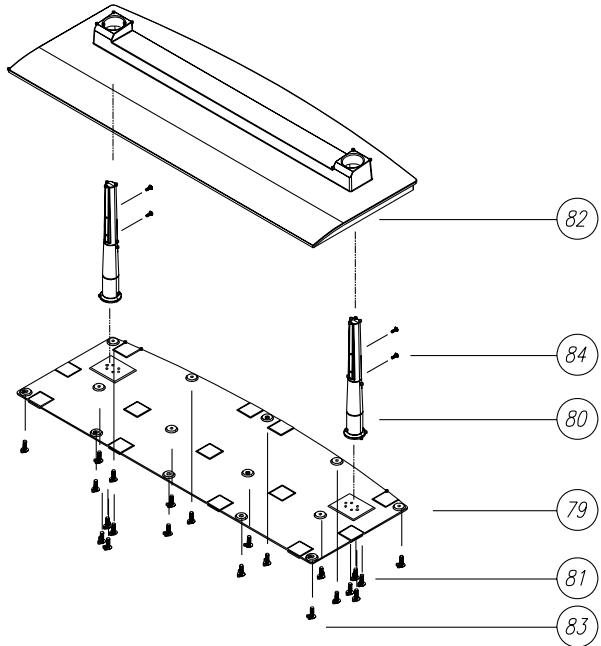
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### (1) EXTERIOR SECTION (3/3) PARTS LIST

Mark No.	Description	Part No.	Mark No.	Description	Part No.
89	Harness #970 Power(3p To 3p)	01301-0970	96	Harness #900 S/W (3p)+ F/T (3p)	01301-0900
90	Harness #940 Power(13p To 7p)	01301-0940	97	Harness #910 Lvds(32p, Lockin)	01301-0910
91	Harness #960 Power(10p To 10p)	01301-0960	98	Harness #930 T/M Sensor(5p To 4p)	01301-0930
92	Harness #950 Power (11p To 6p)	01301-0950	99	Harness #1000 Side AV(15p To 15p)	01301-1000
F	93 Harness #920 Gnd Filter	01301-0920	100	Harness #980 IR&LED (6p To 6p)	01301-0980
94	Harness #1150 Gnd Main B/D	01301-1150			
95	Harness #990 Key (5p To 5p)	01301-0990			

## 1.1.7 TABLE TOP STAND SECTION



### (1) TABLE TOP STAND PARTS LIST

<u>Mark No.</u>	<u>Description</u>	<u>Part No.</u>
79	A'ssy Brkt Base	01433-0250
80	Brkt Leg	30112-07-001
81	Screw M4x 8	M1015400817
82	Stand Base	30221-08-001
83	Screw T4 x 10	M1308401017
84	Screw M4x 16	M1040401617
85	Cable Tie LB-17E	30311-01-001
86	Cable Tie	30311-05-001
87	Wire Saddle-1nbe	30312-01-000
88	Additional Post B06	30631-02-006

C

D

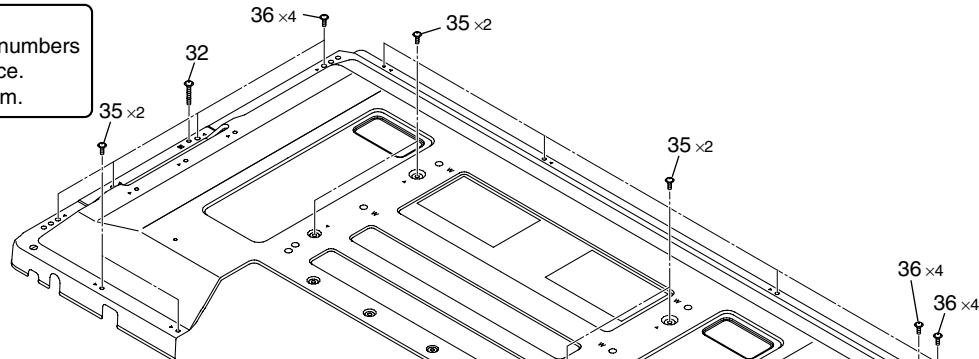
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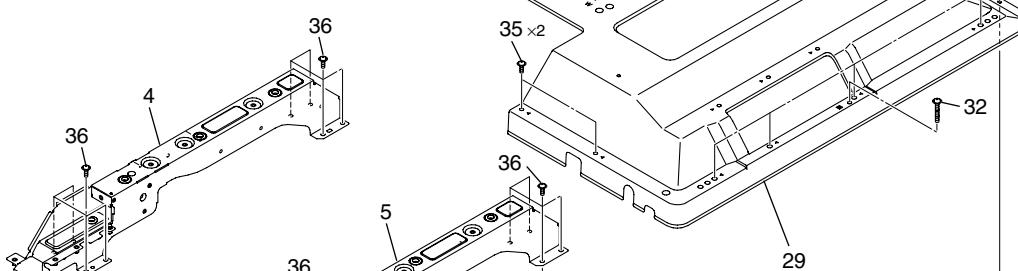
## 1.1.8 PDP SERVICE ASSY 507 (AWU1233)

## Note:

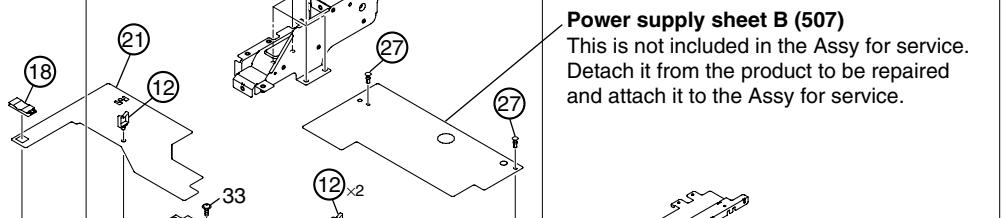
The parts labeled here with circled numbers are supplied with the Assy for service. Attach them, referring to this diagram.



B



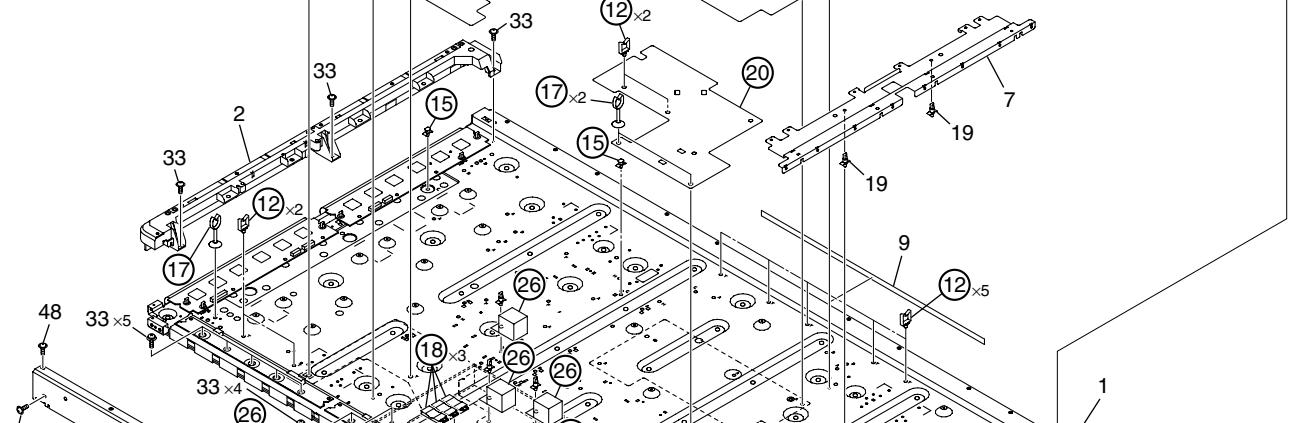
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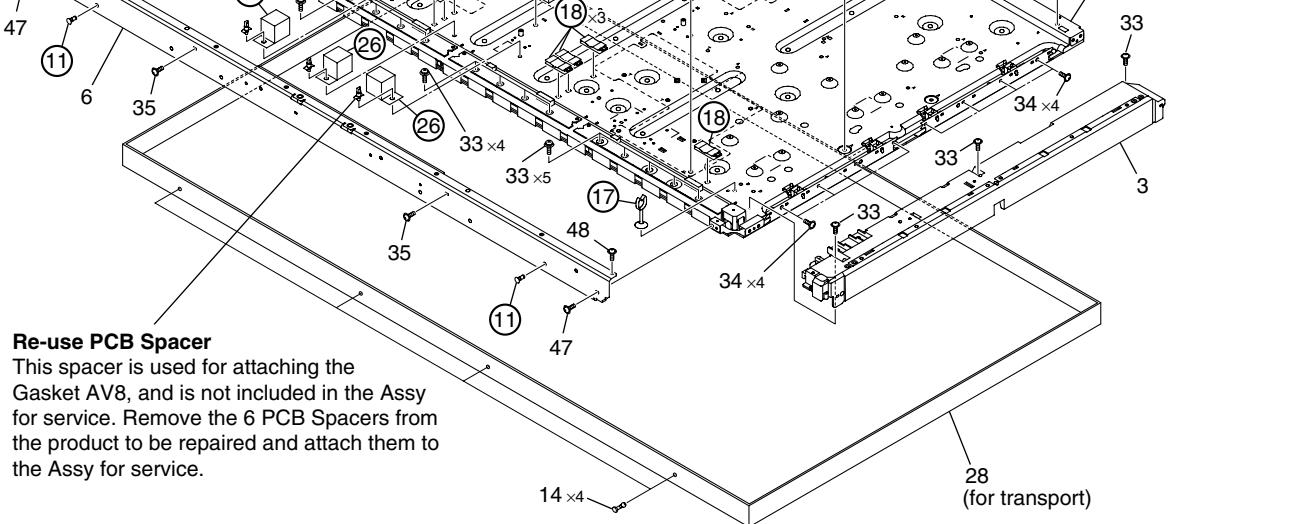
## Power supply sheet B (507)

This is not included in the Assy for service.  
Detach it from the product to be repaired  
and attach it to the Assy for service.

D



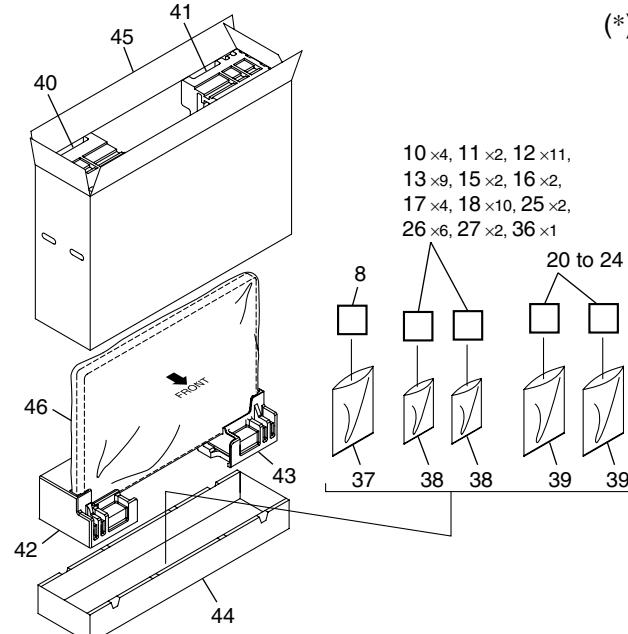
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## Re-use PCB Spacer

**We use PCB Spacers**  
This spacer is used for attaching the Gasket AV8, and is not included in the Assy for service. Remove the 6 PCB Spacers from the product to be repaired and attach them to the Assy for service.

## ● Packing Section



No.	Part Name	Part No.	No. of pcs	Remarks
8	Clamp base	ANG3030	×1	Not used
10	PCB spacer	AEC1126	×4	Not used
12	Wire saddle	AEC1745	×11	Ten of the 11 wire saddles are to be used with this unit. Attach them to the places where T indications are engraved.
13	Wire saddle	AEC1751	×9	Not used
15	PCB support	AEC1938	×2	Attach them to the places where C indications are engraved.
16	PCB support	AEC1958	×2	Not used
17	Harness lifter 28	AEC1982	×4	Attach them to the places where U indications are engraved.
18	Ferrite clamp	AEC1986	×10	Eight of the 10 ferrite clamps are to be used with this unit.
22	DC sheet A	AMR3612	×1	Not used
23	Address sheet E	AMR3621	×1	Not used
24	Address sheet D	AMR3631	×1	Not used
25	Gasket E	ANK1874	×2	Not used
36	Screw	TBZ40P080FTB	×13	Twelve screws have been already secured to the Assy. The remaining one screw packed in a plastic bag is not used with this unit.

## PDP SERVICE ASSY 507 (AWU1212) PARTS LIST

Mark No.	Description	Part No.	Mark No.	Description	Part No.
NSP 1	Panel Chassis (507) Assy	AWU1148	29	Rear Case (507)	ANE1656
2	Front Chassis VL (50)	AMA1014	30	Caution Label	AAX3031
3	Front Chassis VR (507)	AMA1022	NSP 31	Drive Voltage Label	ARW1097
4	Sub Frame L Assy 507	ANA1945	32	Screw (3 x 40P)	ABA1332
5	Sub Frame R Assy 507	ANA1946	33	Screw	ABA1351
6	Front Chassis H Assy (507)	ANA2031	34	Screw	ABA1364
7	Conductive Plate X	ANG2905	35	Screw	AMZ30P060FTB
8	Clamp Base (*)	ANG3030	36	Screw (*)	TBZ40P080FTB
9	Cushion	AEB1424	37	Polyethylene Bag	AHG1337
NSP 10	PCB Spacer (*)	AEC1126	38	Polyethylene Bag S	AHG1338
11	PCB Spacer	AEC1570	39	Polyethylene Bag	AHG1340
12	Wire Saddle (*)	AEC1745	40	Pad (507 T-L)	AHA2538
13	Wire Saddle (*)	AEC1751	41	Pad (507 T-R)	AHA2539
14	Screw Rivet	AEC1877	42	Pad (507 B-L)	AHA2540
15	PCB Support (*)	AEC1938	43	Pad (507 B-R)	AHA2541
16	PCB Support (*)	AEC1958	44	Under Carton (507)	AHD3473
17	Harness Lifter 28 (*)	AEC1982	45	Upper Carton (507SV)	AHD3550
18	Ferrite Clamp (*)	AEC1986	46	Protect Sheet	AHG1331
19	Re-use PCB Spacer	AEC2087	47	Screw	ABZ30P080FTC
20	Address Sheet A	AMR3628	48	Screw	APZ30P080FTB
21	Address Sheet F	AMR3646			
22	DC Sheet A (*)	AMR3612			
23	Address Sheet E (*)	AMR3621			
24	Address Sheet D (*)	AMR3631			
25	Gasket E (*)	ANK1874			
26	Gasket AV8	ANK1881			
27	Rivet A	BEC1158			
NSP 28	Front Case Assy (507SV)	AMB2977			

C

D

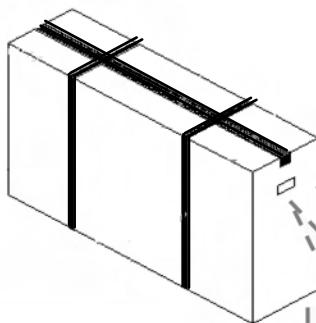
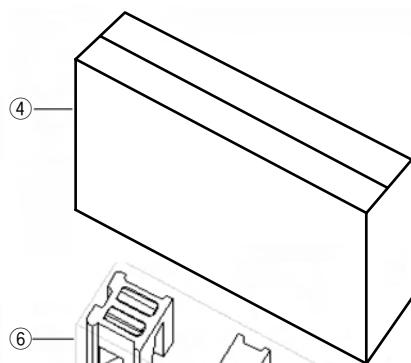
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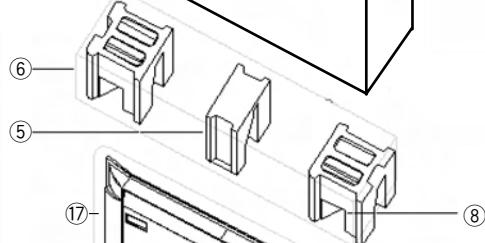
# 1.2 PDP-4216HD

## 1.2.1 PACKING SECTION

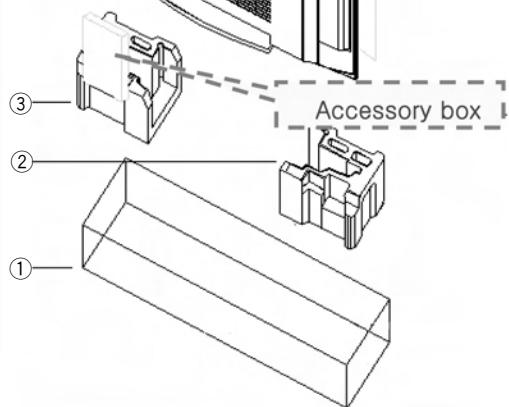
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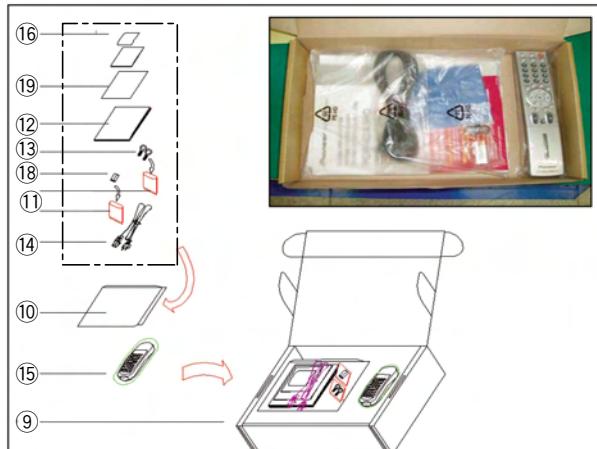


C



D

### • Accessory box



E

F

**(2) PACING PARTS LIST**

<u>Mark No.</u>	<u>Description</u>	<u>Part No.</u>
1	Gift Box-Bottom	30701-05-000
2	Cushion Bottom-Left	30711-13-004
3	Cushion Bottom-Right	30711-13-005
4	Carton Box Top	30701-17-001
5	Cushion Top-Center	30711-04-003
6	Cushion Top-Right	30711-13-002
7	•••••	
8	Cushion Top-Left	30711-13-001
9	Accessory Box	30751-04-000
10	Bag Vinyl B (260 x 360 x0.03)	10711-01-002
11	Bag Vinyl Zipper	10711-02-002
12	Operrating Instructions	20010-1320
13	Stay Bolt (Steel, M8x12)	30191-02-001
14	Power Cord	01300-0390
15	Remote Control unit	01400-0850
16	Wiping Cloth	AED1285
17	Packing Sheet	AHG1352
NSP 18	Battery	•••••
NSP 19	Warranty Card	•••••

A

B

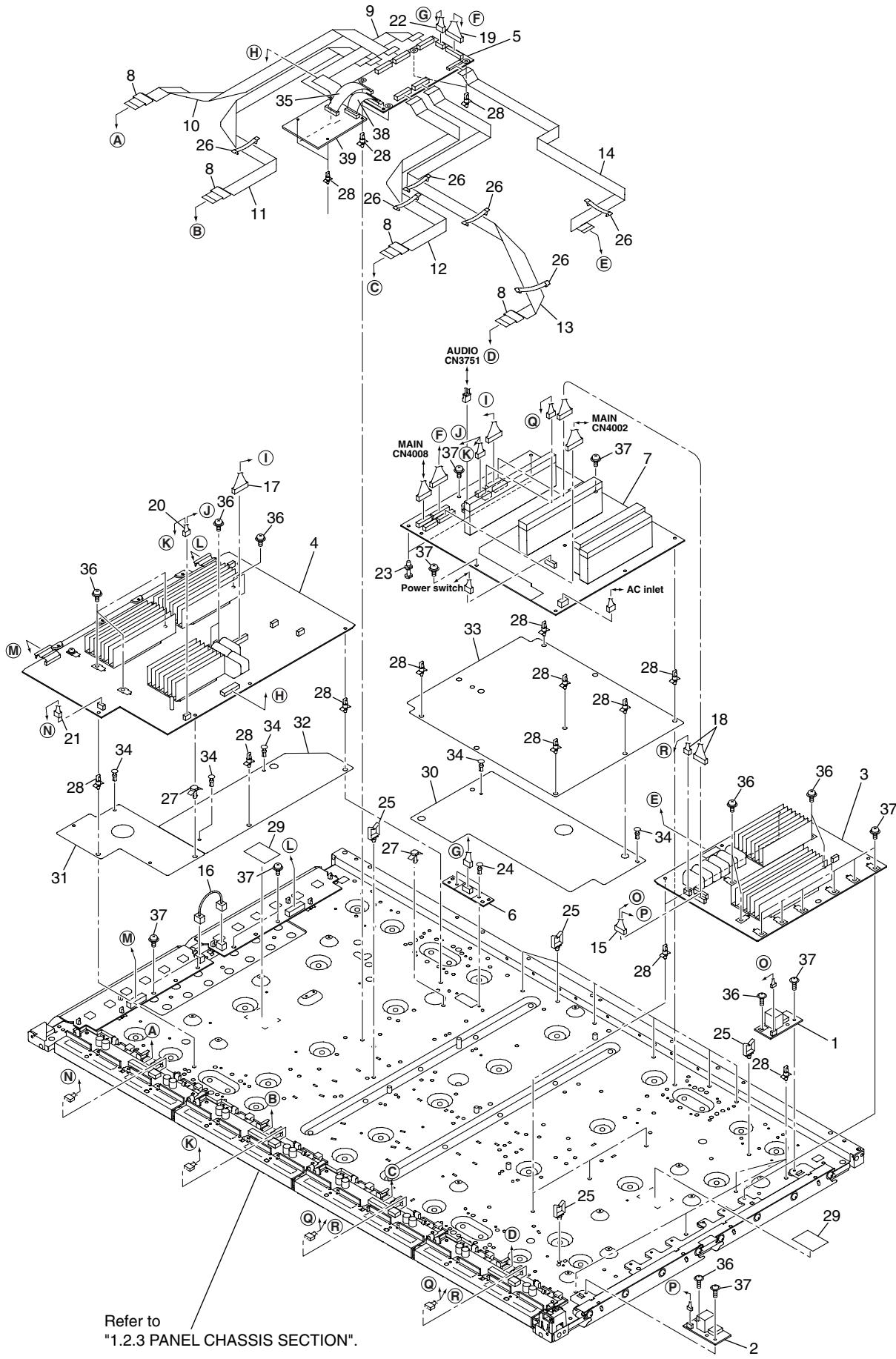
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## 1.2.2 CHASSIS SECTION



Refer to /  
"1.2.3 PANEL CHASSIS SECTION".

## CHASSIS SECTION PARTS LIST

<u>Mark No.</u>	<u>Description</u>	<u>Part No.</u>	
1	SUS CLAMP 1 Assy	AWW1022	
2	SUS CLAMP 2 Assy	AWW1023	A
3	42 X DRIVE Assy	AWW1196	
4	42 Y DRIVE Assy	AWV2400	
5	42 DIGITAL Assy	AWW1138	
6	SENSOR Assy	AWW1140	
△ 7	POWER SUPPLY Unit	AXY1153	
8	Ferrite Core	ATX1048	
9	Flexible Cable (J1204)	ADD1429	
10	Flexible Cable (J1205)	ADD1430	
11	Flexible Cable (J1206)	ADD1431	B
12	Flexible Cable (J1207)	ADD1432	
13	Flexible Cable (J1208)	ADD1433	
14	Flexible Cable (J1209)	ADD1434	
15	6P&3P Housing Wire (J1214)	ADX3393	
16	3P Housing Wire (J1211)	ADX3136	
17	9P Housing Wire (J1217)	ADX3397	
18	8P&5/4P Housing Wire (J1218)	ADX3468	
19	14P Housing Wire (J1212)	ADX3323	
20	6P/4P Housing Wire (J1215)	ADX3394	C
21	4P Housing Wire (J1216)	ADX3395	
22	5P Housing Wire (J1213)	ADX3328	
23	Spacer	AEC1065	
24	Nylon Rivet	AEC1671	
25	Wire Saddle	AEC1745	
26	Flat Clamp	AEC1879	
27	PCB Support	AEC1938	
28	Re-use PCB Spacer	AEC2087	
29	Drive Silicone Sheet	AEH1095	D
30	Power Supply Sheet B (507)	AMR3555	
31	Y Drive Protection Sheet A	AMR3632	
32	Y Drive Protection Sheet B	AMR3633	
33	Power Supply Sheet (427)	AMR3648	
34	Rivet A	BEC1158	
35	Flexible Cable (J1210)	ADD1448	
36	Screw	ABA1313	E
37	Screw	ABA1364	
38	Flexible Cable (J1211)	ADD1449	
39	INTERFACE Assy	AWV2373	

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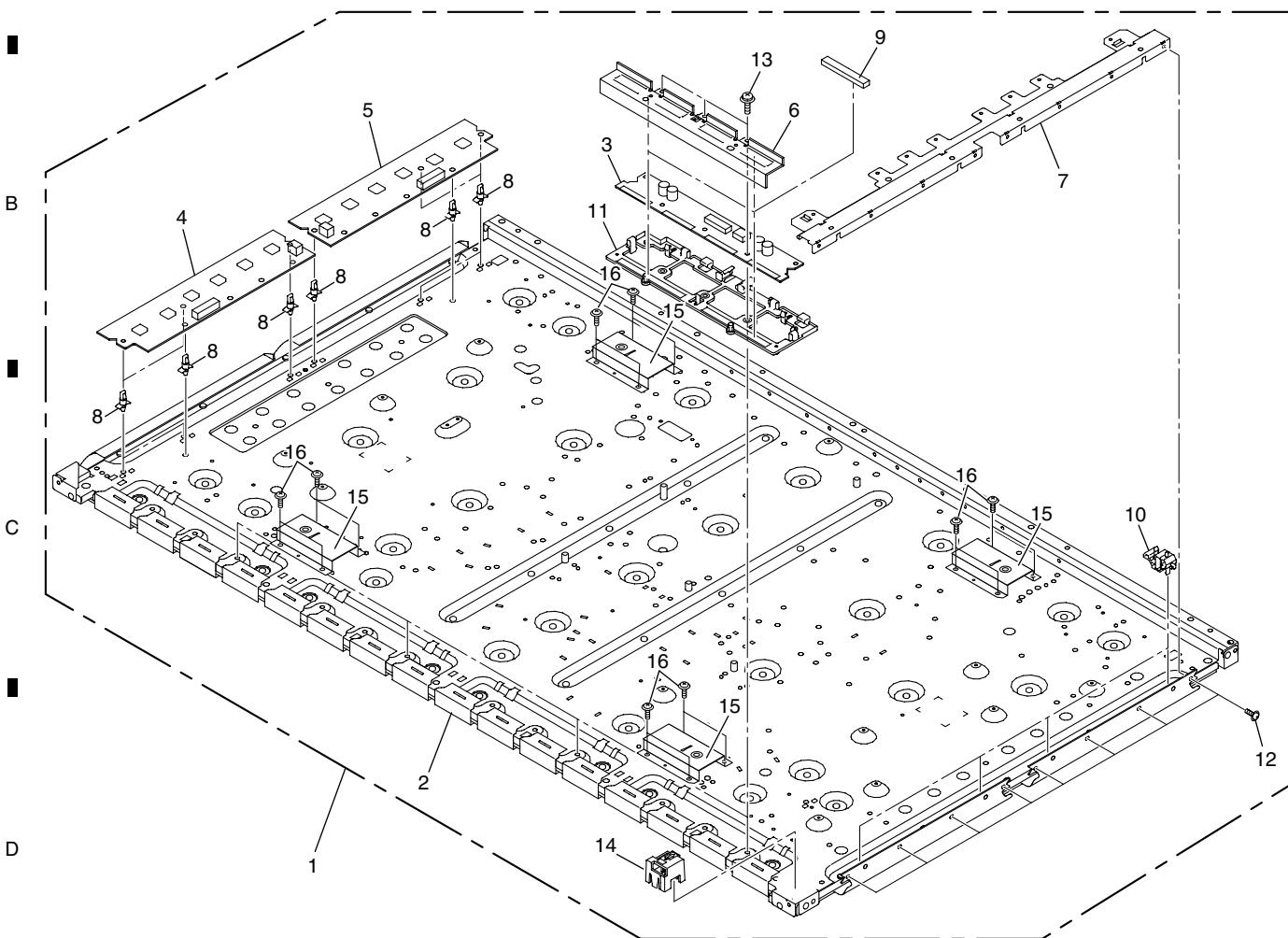
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### 1.2.3 PANEL CHASSIS SECTION

A



E

F

**PANEL CHASSIS SECTION PARTS LIST**

<b>Mark No.</b>	<b>Description</b>	<b>Part No.</b>
NSP 1	Panel Chassis (427) Assy	AWU1171
NSP 2	Plasma Panel (42DC) Assy	AWU1161
NSP 3	42 ADDRESS Assy	AWV2335
NSP 4	42 SCAN A Assy	AWW1182
NSP 5	42 SCAN B Assy	AWW1183
6	Address Heatsink	ANH1644
7	Conductive Plate X	ANG2791
8	Re-use PCB Spacer	AEC2087
9	Address Silicone A	AEH1093
10	Conductive Plate Holder	AMR3446
11	Address Holder Assy	AMR3460
12	Screw	ABA1364
13	Screw	BBB30P120FNI
14	Tube Cover (FT)	AMR3557
15	Module Holder	ANG2939
16	Screw	ABA1335

A

B

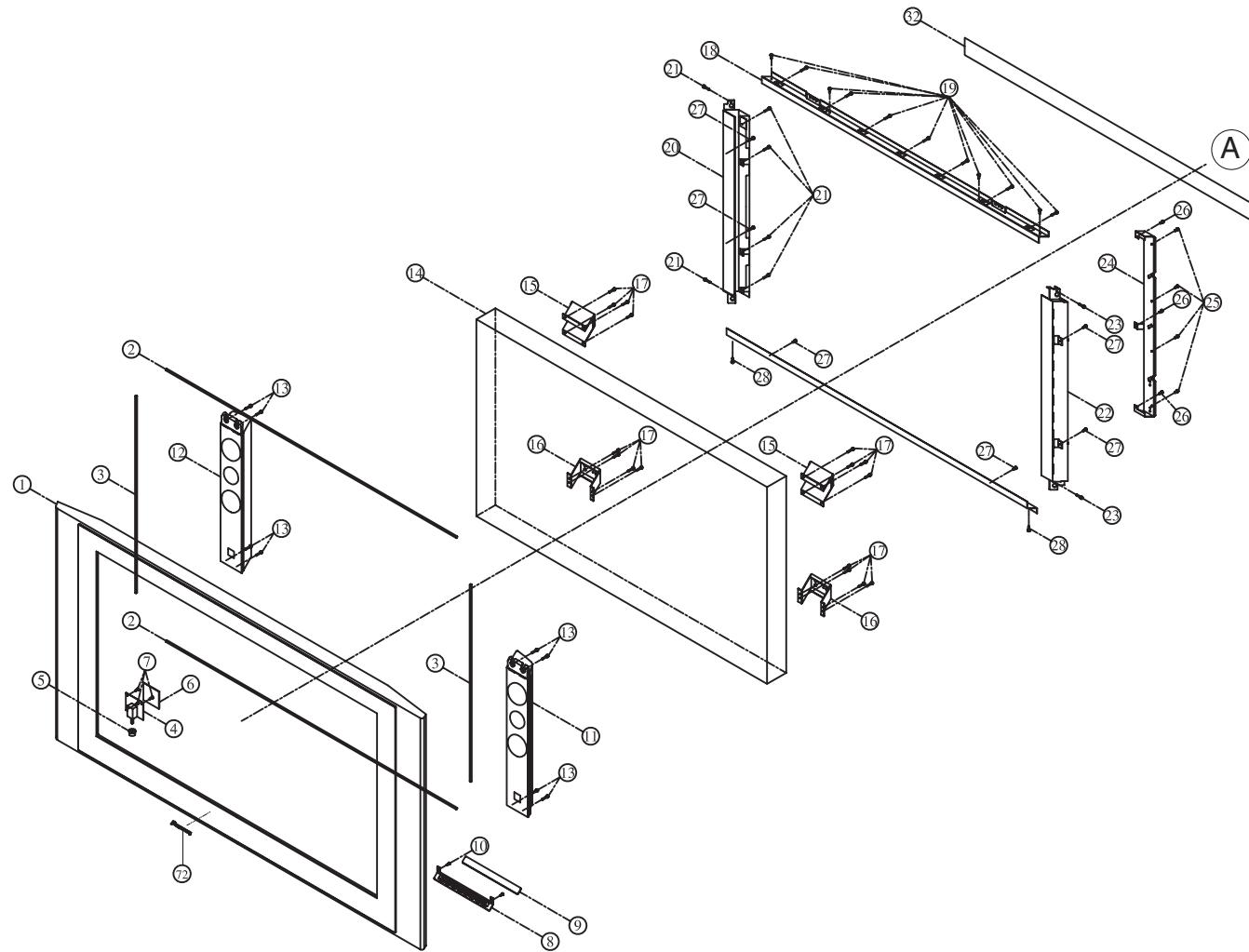
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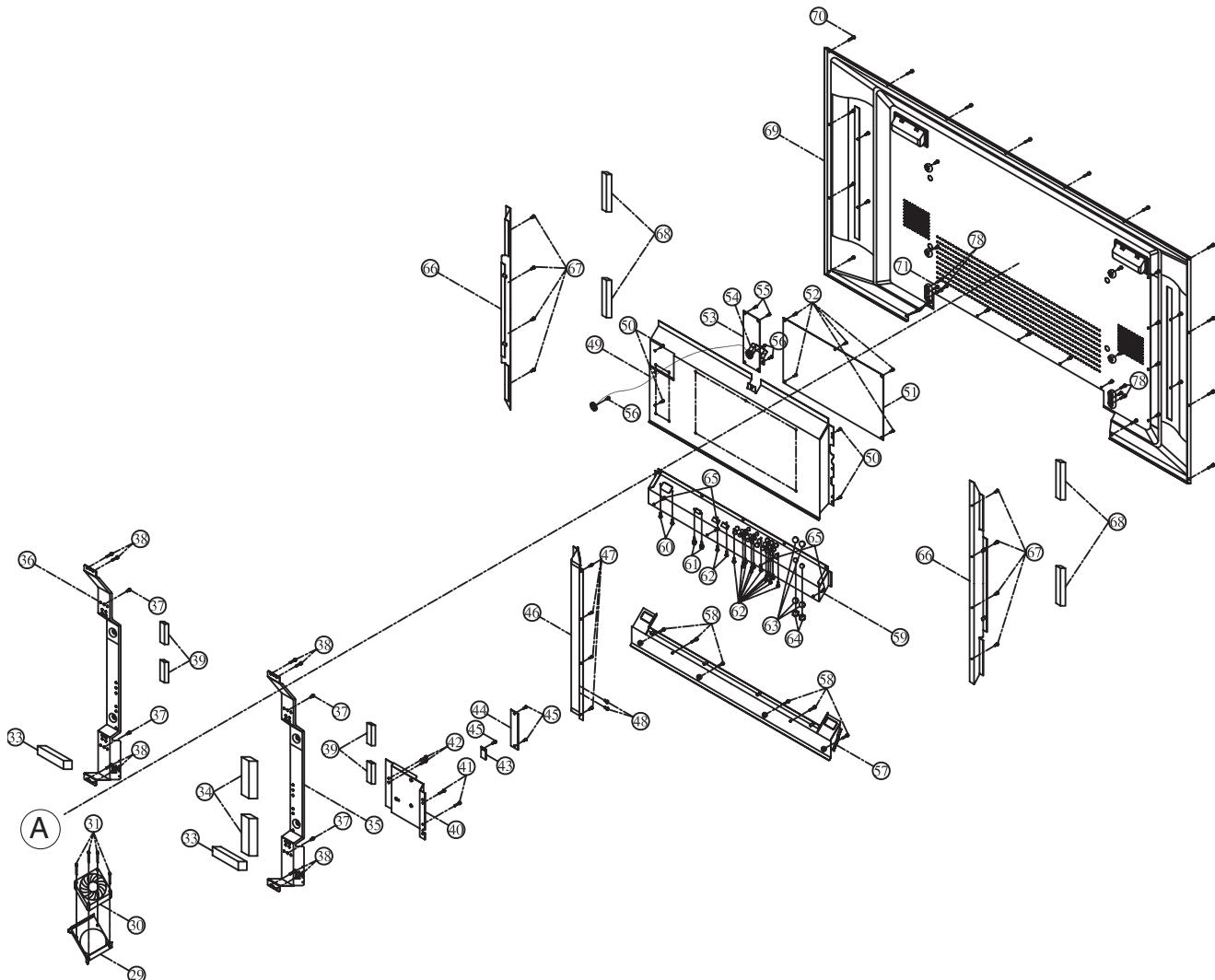
## 1.2.4 EXTERIOR SECTION (1/3)



## **(1) EXTERIOR SECTION (1/2) PARTS LIST**

<u>Mark No.</u>	<u>Description</u>	<u>Part No.</u>	<u>Mark No.</u>	<u>Description</u>	<u>Part No.</u>
1	Assy Cabinet Front	01421-0370	18	Ass'y Brkt M-hor Top	01433-0190
2	Cushion M-HOR	30331-02-001	19	Screw M3 x 8	M1040300815
3	Cushion M-VER	30331-03-001	20	Ass'y Brkt M-Ver R Bot	01433-0210
4	SUB POWER SWITCH Assy	150-2070			
5	Knob Power PDP-4214H	30251-04-002	21	Screw T3 x 8	M1318300815
6	Insulation Sheet-pow	30321-08-001	22	Ass'y Brkt M-Ver L Bot	01433-0220
7	Screw T3 x 8	M1305300817	23	Screw M3 x 8	M1040300815
8	Knob Control	30252-14-001	24	Brkt M-Ver R Top	30164-03-001
9	SUB KEY Assy	220-2206	25	Screw M3 x 8	M1040300815
10	Screw T3 x 12	M1308301215	26	Screw M3 x 8	M1040300815
11	Speaker R 6 Ohm 15w /S	02400-0280	27	Ass'y Brkt M-Hor Bot	01433-0200
12	Speaker L 6 Ohm 15w /S	02400-0270	28	Screw T3 x 8	M1318300815
13	Screw T4 x 14	M1308401415	29	Brkt Fan	30172-03-001
NSP 14	Panel Chassis (427) Assy	AWU1171	30	Fan D08R-12TL	10511-10-001
15	Brkt Sub M-Top	30117-07-001	31	Screw M4 x 20	M1040402017
16	Brkt Sub M-Bot	30117-08-001	32	EMI Tape 50 (W) X 900 (L)	02900-0240
17	Screw M3 x 8	M1040300815	72	Pioneer Badge	AAM1113

## 1.2.5 EXTERIOR SECTION (2/3)



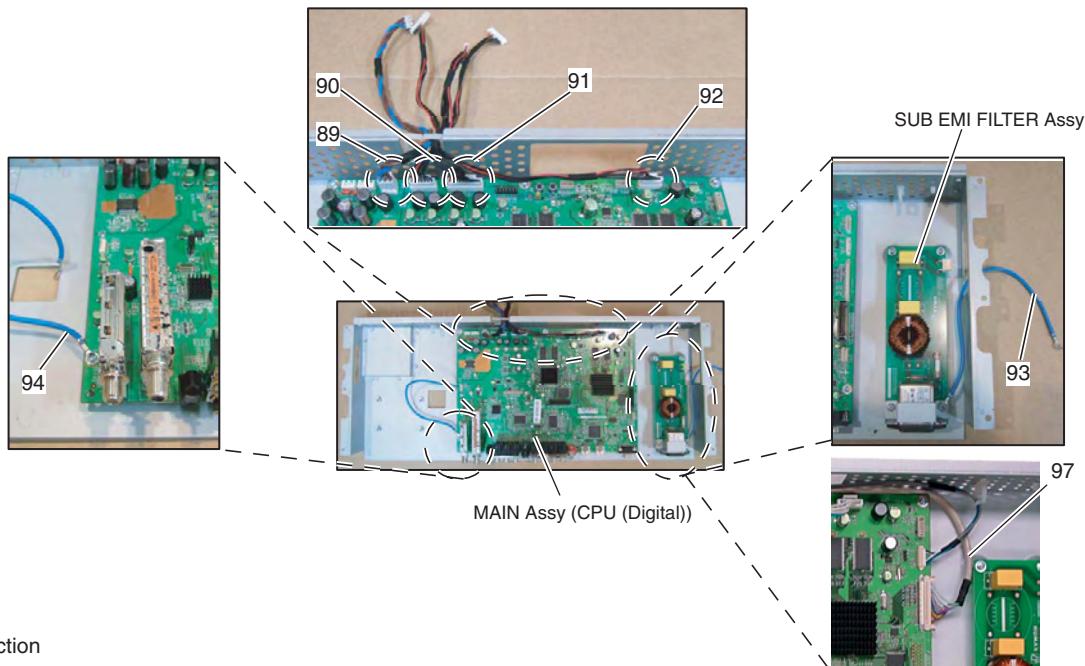
### (1) EXTERIOR SECTION (2/2) PARTS LIST

<b>Mark No.</b>	<b>Description</b>	<b>Part No.</b>	<b>Mark No.</b>	<b>Description</b>	<b>Part No.</b>
33	EMI Gasket 25 X 25 X 50	02900-0190	53	SUB EMI FILTER Assy	150-2080
34	EMI Gasket 25 X 25 X 100	02900-0200	54	Brkt N-Filter	30173-01-000
35	Ass'y Brkt V-Supporter- R	01433-0240	55	Screw M3 x 8	M1040300815
36	Ass'y Brkt V-Supporter- L	01433-0230	56	Screw M4 X 6	M1033400615
37	Screw M4 x 8	M1015400817	57	Assy Brkt Rear Bottom	01421-0380
38	Screw T4 x 16	M1305401617	58	Screw T4 x 16	M1305401617
39	EMI Gasket 13 X 15 X 51	02900-0230	59	Brkt Main AV-USA	30165-05-001
40	Brkt Sub Side AV	30117-06-001	60	Screw T3 x 8	M1305300817
41	Screw M3 x 8	M1040300815	61	Screw M3x 8	M1116300805
42	Screw M4 X 6	M1033400615	62	Screw M3x 8	M1040300815
43	SUB THERMAL SENSOR Assy 220-2207		63	Washer Pai10	M1231111002
44	SUB SIDE AV Assy	220-2204	64	Nut Unf 3/8inch x 32	M1211210002
45	Screw M3x 8	M1040300815	65	Screw M4x 8	M1015400817
46	Brkt Side AV-USA	30166-05-001	66	Shield Side	30103-06-001
47	Screw M3 x 8	M1040300815	67	Screw M3x 8	M1040300815
48	Screw T3 x 8	M1305300817	68	Emi Gasket 110 x 15 x 15t	30501-05-009
49	Ass'y Shield Main	01434-0080	69	Ass'y Back	01428-0120
50	Screw M3 x 8	M1040300815	70	Screw T4 x 16	M1305401617
51	MAIN Assy (CPU (Digital))	010-2863	71	Screw M4x 8	M1015400817
52	Screw M3 x 8	M1040300815			

## 1.2.6 EXTERIOR SECTION (3/3)

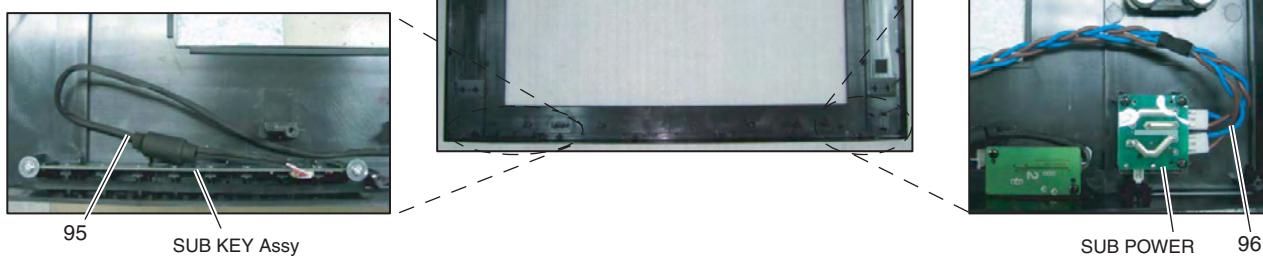
- Main Section

A



- Front Section

C

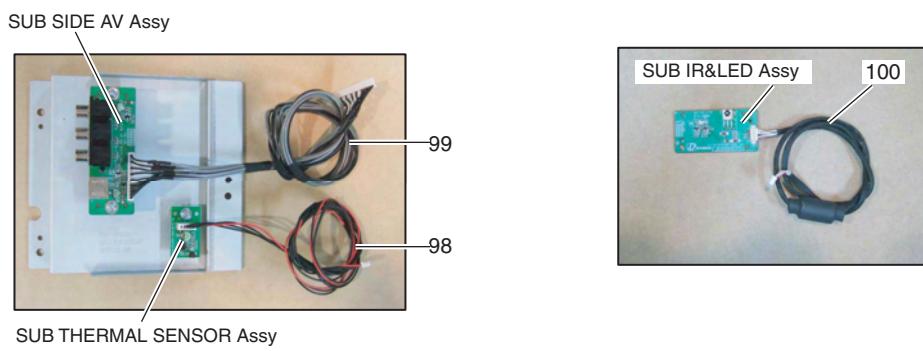


D

- Side AV Section

- SUB IR & LED Section

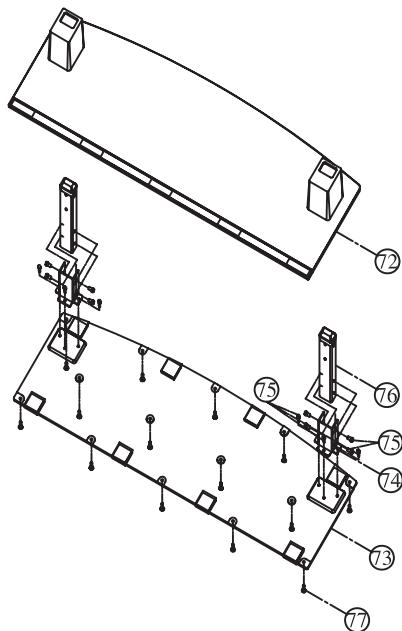
E



### (1) EXTERIOR SECTION (3/3) PARTS LIST

Mark No.	Description	Part No.	Mark No.	Description	Part No.
89	Harness #970 Power(3p To 3p)	01301-0970	96	Harness #900 S/W (3p)+ F/T (3p)	01301-0900
90	Harness #940 Power(13p To 7p)	01301-0940	97	Harness #910 Lvds(32p, Lockin)	01301-0910
91	Harness #960 Power(10p To 10p)	01301-0960	98	Harness #930 T/M Sensor(5p To 4p)	01301-0930
92	Harness #950 Power (11p To 6p)	01301-0950	99	Harness #1000 Side AV(15p To 15p)	01301-1000
F	93 Harness #920 Gnd Filter	01301-0920	100	Harness #980 IR&LED (6p To 6p)	01301-0980
94	Harness #1150 Gnd Main B/D	01301-1150			
95	Harness #990 Key (5p To 5p)	01301-0990			

## 1.2.7 TABLE TOP STAND SECTION



### (1) TABLE TOP STAND PARTS LIST

<u>Mark No.</u>	<u>Description</u>	<u>Part No.</u>
72	Ass'y Stand	01425-0120
73	Ass'y Brkt Base	01433-0120
74	Brkt Leg Supp Pau-42thd	30169-01-000
75	Screw M4x 8	M1015400817
76	Ass'y Stand Leg	01425-0130
77	Screw T4 x 10	M1308401017
78	Screw M4x 12	M1040401217

C

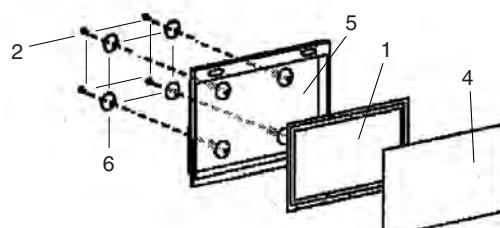
D

E

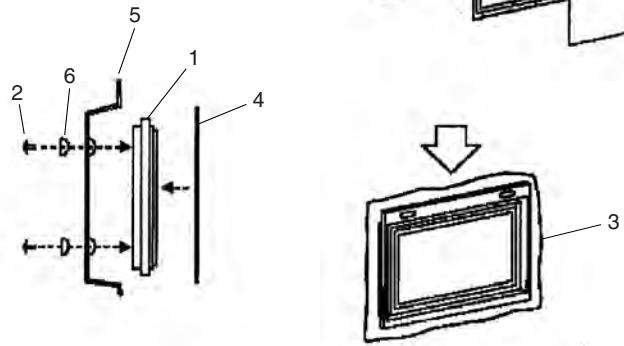
F

## 1.2.8 PDP SERVICE PANEL ASSY (AWU1208)

A



B



C

### PDP SERVICE PANEL ASSY 427 (AWU1208) PARTS LIST

<u>Mark No.</u>	<u>Description</u>	<u>Part No.</u>
NSP 1	P. Chassis (427) Assy	AWU1171
	Caution Label	AAX3031 x2
NSP	Drive Voltage Label	ARW1097
2	Screw	PMB50P150FTC x4

#### D ACCESSORY 1

Vinyl Bag S	AHG1338
Screw	ABA1351 x3
Wire Saddle	AEC1745 x9
PCB Support	AEC1938 x2
Rivet A	BEC1158 x5

#### E ACCESSORY 2

NSP	Vinyl Bag	AHG1340
	Y Drive Sheet A	AMR3632
	Power Sheet (427) A	AMR3648
E	Gasket Address (42)	ANK1877 x4

#### F PACKING PARTS

Pad 42SINGLE(T-L)	AHA2550
Pad 42SINGLE(T-R)	AHA2551
Pad 42SINGLE(B-L)	AHA2552
Pad 42SINGLE(B-R)	AHA2553
Upper Carton (42SINGLE)	AHD3480

3	Under Carton (42SINGLE)	AHD3481
4	Polyethylene Bag	AHG1381
	Packing Sheet	AHG1386
5	Tray (FT)	AHX1158
6	Cup Spacer (15)	ANG2936 x4

## 2. PCB PARTS

NOTES: • Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.

• The  $\triangle$  mark found on some component parts indicates the importance of the safety factor of the part.  
Therefore, when replacing, be sure to use parts of identical designation.

• When ordering resistors, first convert resistance values into code form as shown in the following examples.

Ex.1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J=5%, and K=10%).

560 $\Omega$	$\rightarrow$	$56 \times 10^1$	$\rightarrow$	561 .....	RD1/4PU [5] [6] [1] J
47k $\Omega$	$\rightarrow$	$47 \times 10^3$	$\rightarrow$	473 .....	RD1/4PU [4] [7] [3] J
0.5 $\Omega$	$\rightarrow$	R50 .....			RN2H [R] [5] [0] K
1 $\Omega$	$\rightarrow$	IRO .....			RS1P [I] [R] [0] K

Ex.2 When there are 3 effective digits (such as in high precision metal film resistors).

5.62k $\Omega$	$\rightarrow$	$562 \times 10^1$	$\rightarrow$	5621 .....	RNI/4PC [5] [6] [2] [1] F
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### 2.1 PCB PARTS LIST (PDP-4216HD )

#### MarkNo.      Description      Part No.

#### LIST OF ASSEMBLIES

NSP	1..PANEL CHASSIS (427S) ASSY	AWU1185
NSP	2..42 ADDRESS ASSY	AWV2335
NSP	2..42 SCAN ASSY	AWV2362
NSP	3..42 SCAN A ASSY	AWW1182
NSP	3..42 SCAN B ASSY	AWW1183
NSP	1..42 X DRIVE ASSY	AWV2399
	2..42 X DRIVE ASSY	AWW1196
	2..SUS CLAMP 1 ASSY	AWW1022
	2..SUS CLAMP 2 ASSY	AWW1023
	1..42 Y DRIVE ASSY	AWV2400
NSP	1..42 DIGITAL ASSY	AWV2301
	2..42 DIGITAL ASSY	AWW1138
	2..SENSOR ASSY	AWW1140
	1..INTERFACE ASSY	AWV2373
$\triangle$	1..POWER SUPPLY UNIT	AXY1153
	1..SUB IR&LED ASSY	220-2205
	1..SUB POWER SWITCH ASSY	150-2070
	1..SUB KEY ASSY	220-2206
	1..SUB THERMAL SENSOR ASSY	220-2207
	1..SUB SIDE AV ASSY	220-2204
	1..MAIN ASSY ASSY(CPU (Digital))	010-2863

#### **SUB SIDE AV ASSY**

SUB SIDE AV Assy has no service part.

#### **MAIN ASSY (CPU (Digital))**

MAIN ASSY Assy (CPU (Digital)) has no service part.

#### Mark No.      Description      Part No.

#### **42 DIGITAL ASSY**

#### **[DIGITAL IF BLOCK] MISCELLANEOUS**

F3001	CCG1162
CN3001	AKM1353
CN3002	AKM1235

#### **RESISTORS**

R3007, 3010-3016	RAB4C470J
R3020-3022	RAB4C103J
Other Resistors	RS1/16SS###J

#### **[MODULE UCOM BLOCK] SEMICONDUCTORS**

IC3152, 3153	SN74AHC541PW
IC3155	SN74AHC08PW
IC3156	BR24L04FJ-W
IC3157	M62334FP
IC3159	TC7W126FU
IC3160, 3161	TC74VHC123AFTS1
Q3151	2SJ461A
D3151, 3152, 3154, 3155	DAN202U
D3158, 3159, 3161-3163	1SS355

#### **POWER SUPPLY UNIT**

POWER SUPPLY UNIT has no service part.

#### **SUB IR&LED ASSY**

SUB IR&LED Assy has no service part.

#### **SUB POWER SWITCH ASSY**

SUB POWER SWITCH Assy has no service part.

#### **SUB KEY ASSY**

SUB KEY Assy has no service part.

#### **SUB THERMAL SENSOR ASSY**

SUB THERMAL SENSOR Assy has no service part.

#### **MISCELLANEOUS**

X3151	CSS1616
CN3151	AKM1276
CN3152	CKS4828

#### **RESISTORS**

R3155, 3160, 3170, 3176	RAB4C101J
R3174	RAB4C103J
Other Resistors	RS1/16SS###J

#### **CAPACITORS**

C3151	CEHVKW470M6R3
C3152, 3153, 3155-3158	CKSSYB104K10
C3159, 3171, 3172, 3182	CKSRYB105K6R3

	<u>Mark No.</u>	<u>Description</u>	<u>Part No.</u>	<u>Mark No.</u>	<u>Description</u>	<u>Part No.</u>
	C3162, 3163, 3165, 3166 C3164		CKSSYB104K10 CCSSCH101J50	[ADDRESS CN BLOCK] <b>SEMICONDUCTORS</b>		
A	C3167 C3168, 3170, 3181		CKSSYB103K16 CKSSYB104K10	Q3501, 3502 D3501, 3502		RN1901 DAN202U
	<b>SEMICONDUCTORS</b> IC3151		AGC1011	<b>MISCELLANEOUS</b>		
	[PANEL FLASH BLOCK] <b>SEMICONDUCTORS</b> IC3302, 3305 IC3303 IC3304 Q3301 Q3302		PST3628UR SN74AHC08PW PST3610UR RN1901 HN1C01FU	R3519, 3520 R3521, 3522, 3525 R3524 Other Resistors		RAB4C472J RAB4C101J RAB4C222J RS1/16SS###J
B	X3302 (102.5 MHz) CN3301		ASS1188 CKS4835	[DIGITAL DD CON BLOCK] <b>SEMICONDUCTORS</b>	IC3601	BA80BC0WFP
	<b>MISCELLANEOUS</b>			<b>MISCELLANEOUS</b>	U3601	AXY1137
	<b>RESISTORS</b> R3307, 3308 Other Resistors		RAB4C101J RS1/16SS###J	<b>RESISTORS</b>	R3611 Other Resistors	RAB4C101J RS1/16SS###J
C	<b>CAPACITORS</b> C3301–3303, 3306, 3308 C3304, 3307, 3309 C3305, 3310 C3311 C3315, 3316 C3317		CKSSYB104K10 CKSSYB472K16 CKSSYB102K50 CCSRCH470J50 CKSSYB104K10 CCSRCH471J50	<b>CAPACITORS</b>	C3609 C3611 C3612 (100 µF/16 V) C3613	CKSSYB104K10 CKSQYB105K16 ACH1394 CKSSYB103K16
D	<b>SEMICONDUCTORS</b> IC3301		AGC1010	<b>SENSOR ASSY</b> <b>SEMICONDUCTORS</b>	IC3651 IC3652 Q3651	MM1522XU BR24L02FJ-W HN1B04FU
	[SQ ASIC BLOCK] <b>SEMICONDUCTORS</b> IC3401		PEG239A	<b>MISCELLANEOUS</b>	CN3651 All Resistors	AKM1276 RS1/16SS###J
	<b>MISCELLANEOUS</b> L3401–3403 F3401, 3402		QTL1013 CCG1162	<b>CAPACITORS</b>	C3651, 3653 C3652, 3654 C3656, 3657	CKSRYB105K6R3 CKSSYB103K16 CKSSYB104K10
E	<b>RESISTORS</b> R3402, 3412 R3405–3407, 3409, 3410 R3416 R3425 Other Resistors		RAB4C101J RAB4C220J RAB4C220J RS1/16SS5601F RS1/16SS###J	<b>42 X DRIVE ASSY</b> <b>MISCELLANEOUS</b>	1001 1001 1002 1002	BMZ30P080FTC ANH1637 AEH1092 ANH1639
F	<b>CAPACITORS</b> C3401, 3402, 3419, 3425 C3403–3413, 3417, 3418 C3420–3424, 3426–3432 C3445–3448		CEHVKW101M6R3 CKSSYB104K10 CKSSYB104K10 CKSSYB104K10			

[42X LOGIC BLOCK]

**Mark No.**      **Description****Part No.****SEMICONDUCTORS**

IC1001                    TC74ACT541FT  
 IC1002                    TC74VHC00FTS1

**Mark No.**      **Description****Part No.**

CRH01  
 1SS302  
 UDZS16(B)

**MISCELLANEOUS**

CN1001                    VKN1310

**MISCELLANEOUS**

L1201, 1205, 1231 (10  $\mu$ H)  
 L1204, 1211 (1.0  $\mu$ H)  
 F1201  
 KN1201–1206, 1208–1211  
 CN1201  
 CN1202

LFEA100J  
 ATH1186  
 CTF1449  
 ANK-142  
 B8B-EH  
 B6B-EH

**RESISTORS**

R1001, 1003  
 R1008, 1009, 1020  
 Other Resistors

RAB4C470J  
 RAB4C472J  
 RS1/16S###J

**RESISTORS**

R1204 (2.2  $\Omega$ , 1/2 W)  
 R1213 (3.3  $\Omega$ , 1/2 W)  
 R1276, 1277  
 Other Resistors

ACN1166  
 ACN1168  
 RS3LMF331J  
 RS1/16S###J

**CAPACITORS**

C1001, 1002  
 C1003  
 C1004

CKSRYB104K16  
 CEHAT470M16  
 CCSRCH680J50

**RESISTORS**

R1204 (2.2  $\Omega$ , 1/2 W)

**[42X RESONANCE BLOCK]**  
**SEMICONDUCTORS**

IC1101  
 IC1141  
 Q1141  
 D1101–1105

AXF1145  
 BA10393F  
 2SC4116  
 D1FL40

**CAPACITORS**

C1204, 1207, 1223, 1251  
 C1206  
 C1208  
 C1211, 1225–1227, 1297 (3300 pF/630 V) ACG1129  
 C1212, 1213 (280  $\mu$ F/250 V) ACH1424

**MISCELLANEOUS**

L1101, 1102  
 L1103–1106

ATH1155  
 ATH1193

C1214–1217 (2.2  $\mu$ F/250 V)

ACE1178  
 CKSYB105K25  
 CKSRYB105K6R3  
 CEHAT470M25  
 CEHAT101M10

**RESISTORS**

R1101 (3.3  $\Omega$ , 1/2 W)  
 R1106  
 R1121  
 R1122, 1123  
 R1142, 1146

ACN1168  
 ACN1252  
 RS2MMF100J  
 RS1/10S104J  
 RS1/10S1003F

**[42X D-D CON BLOCK]**  
**SEMICONDUCTORS**

IC1321  
 IC1326  
 Q1301, 1323  
 Q1302  
 Q1321, 1325, 1351

**CAPACITORS**

C1101, 1112, 1113 (0.22  $\mu$ F/250 V) ACG1112  
 C1102, 1146 CKSRYB105K6R3  
 C1103 CKSYB105K25  
 C1105 CCG1186  
 C1121 (470 pF/630 V) ACG1126

CKSRYB104K16  
 ACE1168  
 ACG1129

Q1324  
 D1301, 1302, 1326, 1327  
 D1303, 1324  
 D1304, 1307, 1325, 1328  
 D1306, 1323, 1331

PS2701A-1(L)  
 TA76431FR  
 2SD1898  
 2SC4081  
 HN1C01FU

**[42X SUS BLOCK]**  
**SEMICONDUCTORS**

IC1201  
 IC1202  
 IC1251  
 IC1252  
 IC1271

MM1565AF  
 AXF1143  
 TND301S  
 PS9117  
 TND307TD

**MISCELLANEOUS**

VR1321  
 T1301  
 T1321

CCP1392  
 ATK1159  
 ATK1160

**RESISTORS**

R1321, 1322, 1326, 1339  
 R1337  
 Other Resistors

RS1/10S224J  
 RAB4C472J  
 RS1/16S###J

<u>Mark No.</u>	<u>Description</u>	<u>Part No.</u>	<u>Mark No.</u>	<u>Description</u>	<u>Part No.</u>
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**CAPACITORS**

A	C1301, 1303, 1323 C1302, 1321 C1304, 1306 C1307, 1324, 1327 C1325 (22 µF/250 V)	CKSRYB103K50 CEHAT101M25 CKSRYB104K16 CKSYB105K25 ACH1428
	C1326	CEHAT100M50

**SUS CLAMP 1 ASSY****SEMICONDUCTORS**

B	D1631	DF20L60U
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**MISCELLANEOUS**

KN1631 KN1632 CN1631	VNF1084 ANK-142 B3B-EH
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**CAPACITORS**

C	C1632 (1.2 µF/250 V)	ACE1179
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**SUS CLAMP 2ASSY****SEMICONDUCTORS**

D	D1641	DF20L60U
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**MISCELLANEOUS**

KN1641 KN1642 CN1641	VNF1084 ANK-142 B3B-EH
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**CAPACITORS**

D	C1642 (1.2 µF/250 V)	ACE1179
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**42 Y DRIVE ASSY****MISCELLANEOUS**

E	2001 2001 2001 2001 2002	AEH1092 ABA1349 ANG2790 ANH1638 BMZ30P080FTC
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**[42Y LOGIC BLOCK]  
SEMICONDUCTORS**

F	IC2001, 2004 IC2002 IC2003, 2005	TC74ACT541FT TC74ACT540FT TC74VHC08FTS1
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**MISCELLANEOUS**

F	CN2001	AKM1348
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**RESISTORS**

F	R2001, 2002, 2017, 2021	RAB4C470J
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<u>Mark No.</u>	<u>Description</u>	<u>Part No.</u>
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R2003, 2006 R2004, 2005, 2019, 2020 R2038, 2039 Other Resistors	CKSRYB104K10 CEHAT470M16 CCSRCH680J50
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**CAPACITORS**

CKSSYB104K10 CEHAT470M16 CCSRCH680J50	C2001, 2002, 2004–2006 C2003 C2008
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**[42Y RESONANCE BLOCK]****SEMICONDUCTORS**

AXF1145 BA1039F 2SC4081 D1FL40	IC2101 IC2141 Q2141 D2101–2105
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**MISCELLANEOUS**

ATH1155 ATH1193	L2101, 2102 L2103–2106
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**RESISTORS**

ACN1174 RS2MMF100J RS1/10S104J ACN1241 RS1/10S1003F	R2101 (10 Ω, 1/2 W) R2102 R2103, 2107 R2108 R2142, 2143
RS1/16S5601F RS1/16S6801F RS1/16S###J	R2146, 2149 R2147, 2151 Other Resistors

**CAPACITORS**

CKSRYB105K6R3 CKSYB105K25	C2101, 2145 C2102 C2103, 2107, 2108 (0.22 µF/250 V) C2104, 2106 (470 pF/630 V) C2109–2112 (3300 pF/630 V)
ACE1168 CKSSYB104K10	C2131–2134, 2136 (3.3 µF/250 V) C2141, 2143, 2144

**[42Y SUS BLOCK]  
SEMICONDUCTORS**

TND307TD TND301S PS9117 AXF1144 MM1565AF	IC2203, 2221 IC2231, 2251 IC2250 IC2252, 2253 IC2350
--	--

**[42Y LOGIC BLOCK]  
SEMICONDUCTORS**

2SA2142 2SK3325 2SC4081 2SK3399 2SK3050	Q2202 Q2221 Q2250 Q2280, 2281 Q2290
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**MISCELLANEOUS**

1SS355 D1FK60 1SS302 UDZS16(B)	D2202, 2204, 2205, 2234 D2203, 2212, 2351 D2211 D2213 D2232, 2271
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**RESISTORS**

1SS301 UDZS5R6(B)	D2233 D2250
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Mark No.      Description

D2251, 2252, 2272

Part No.

CRH01

### MISCELLANEOUS

L2350, 2351, 2354 (10  $\mu$ H)  
 L2353 (1.0  $\mu$ H)  
 F2301–2320  
 F2352  
 KN2350, 2352, 2354, 2356

KN2357, 2359–2363  
 CN2350  
 CN2351, 2352

### RESISTORS

R2203  
 R2210  
 R2211  
 R2222, 2224  
 R2277–2281  
 R2290  
 R2304 (10  $\Omega$ , 1/2 W)  
 R2352 (2.2  $\Omega$ , 1/2 W)  
 R2360, 2362 (22  $\Omega$ , 1/2 W)  
 Other Resistors

RS3LMF152J  
 RS1/10S151J  
 RS1/10S561J  
 RS2MMF5R6J  
 RS3LMF8R2J  
 RS1MMF471J  
 ACN1174  
 ACN1166  
 ACN1178  
 RS1/16S###J

### CAPACITORS

C2203–2206 (3300 pF/630 V)  
 C2207  
 C2208, 2221, 2339, 2364  
 C2209, 2222, 2230, 2252  
 C2226 (3.3  $\mu$ F/400 V)  
 C2231 (0.33  $\mu$ F/100 V)  
 C2250  
 C2270 (270  $\mu$ F/100 V)  
 C2271, 2272 (0.1  $\mu$ F/100 V)  
 C2330, 2335, 2341, 2342 (2.2  $\mu$ F/250 V)  
 C2336, 2337 (280  $\mu$ F/250 V)  
 C2353, 2358, 2359  
 C2354, 2360  
 C2355, 2369  
 C2356  
 C2357  
 C2363

ACG1129  
 CCSRCH102J50  
 CEHAT470M25  
 CKSRYF104Z50  
 ACH1427

ACG1118  
 CKSSYB104K10  
 ACH1426  
 ACG1124  
 ACE1178  
 ACH1424  
 CKSRYB105K6R3  
 CKSYB105K25  
 CEHAT101M10  
 CKSRYB104K16  
 CEHAT470M16  
 CKSRYB473K16

### [42Y SCAN BLOCK] SEMICONDUCTORS

IC2401  
 IC2402, 2407  
 IC2403, 2405, 2406, 2408  
 IC2409, 2410  
 D2402

PS9851-2(P)  
 TC74AC540FT  
 PS9117  
 PST3638UR  
 CRH01

### MISCELLANEOUS

L2401–2403 (10  $\mu$ H)  
 F2401–2404  
 CN2401, 2402

LFEA100J  
 ATX1059  
 AKM1200

### RESISTORS

R2407, 2421  
 Other Resistors

RAB4C220J  
 RS1/16S###J

Mark No.      Description

### CAPACITORS

C2401, 2407, 2414  
 C2402, 2403, 2405  
 C2404, 2411 (47  $\mu$ F/160 V)  
 C2408–2410, 2412  
 C2416, 2417

### [42Y VH D-D CON BLOCK] SEMICONDUCTORS

IC2502  
 IC2503  
 IC2531  
 IC2534, 2535  
 Q2511  
 Q2531  
 Q2532  
 Q2533  
 D2522, 2524  
 D2523, 2532  
 D2530, 2531  
 D2533  
 D2534  
 D2536

### MISCELLANEOUS

L2501  
 VR2503  
 VR2531  
 T2503

### RESISTORS

R2533, 2556  
 R2534, 2535, 2541  
 R2542, 2545  
 R2548  
 R2549, 2557  
 R2550  
 R2553  
 R2558  
 Other Resistors

### CAPACITORS

C2513 (22  $\mu$ F/250 V)  
 C2514, 2525, 2534  
 C2515  
 C2516 (100  $\mu$ F/160 V)  
 C2520  
 C2521, 2533, 2535  
 C2528  
 C2531 (0.01  $\mu$ F/400 V)  
 C2532 (10  $\mu$ F/400 V)  
 C2536

### [42Y D-D CON BLOCK] SEMICONDUCTORS

IC2601, 2603, 2606  
 IC2602  
 IC2605, 2614  
 Q2601, 2609

Part No.

CEHAT101M10  
 CKSSYB104K10  
 ACH1406  
 CKSSYB104K10  
 CKSRYB102K50

A

MIP2E3DMC  
 PS2701A-1(L)  
 BA10358F  
 TA76431FR  
 HN1C01FU

B

UDZS8R2(B)  
 UDZS33(B)  
 1SS355  
 UDZS4R7(B)

C

LFEA101J  
 CCP1390  
 CCP1392  
 ATK1158

RS1/10S104J  
 RS1/10S2203F  
 RS1/16S5601F  
 RS1/16S1003F  
 RS1/16S4702F

D

RS1/16S1802F  
 RAB4C472J  
 RS1/10S0R0J  
 RS1/16S###J

E

PS2701A-1(L)  
 BA10358F  
 TA76431FR  
 2SA1576A

F

<u>Mark No.</u>	<u>Description</u>	<u>Part No.</u>	<u>Mark No.</u>	<u>Description</u>	<u>Part No.</u>	
A	Q2602, 2613, 2641	HN1C01FU	<b>RESISTORS</b>	R1505-1509	RS1/16SS1000F	
	Q2603, 2604, 2611	DTC143EUA		R1530, 1531	RS1/16S0R0J	
	Q2605, 2606	2SD1898		Other Resistors	RS1/16SS###J	
	Q2607	2SC2713				
	Q2608	2SA2005				
	Q2610	2SA1163				
	Q2612	2SC4081		C1501	CKSRYB105K6R3	
	D2601, 2603, 2609, 2618	CRH01		C1502 (47 µF/6.3 V)	ACH1357	
B	D2602, 2613-2615	1SS355	<b>CAPACITORS</b>	C1503-1507, 1552-1555	CKSSYF104Z16	
	D2604, 2612	1SS301		C1509, 1510	CKSSYB102K50	
	D2605	UDZS5R1(B)		C1557	CCSSCH470J50	
	D2607, 2608	UDZS4R7(B)				
	D2610	D1FL40				
C	D2611	1SS226	<b>[42 ADR RESONANCE] SEMICONDUCTORS</b>	IC1601, 1602	TND307TD	
	D2616	UDZS5R6(B)		Q1601, 1610	HAT3021R	
	D2617	UDZS15(B)		Q1602, 1609	HAT1110R	
				Q1606, 1608, 1611	QSZ2	
D				Q1612	2SA1163	
<b>MISCELLANEOUS</b>						
E	VR2601	CCP1390	<b>MISCELLANEOUS</b>	Q1613, 1614	RN1901	
	T2601	ATK1161		D1601, 1606, 1618, 1619	UDZS15(B)	
	T2602	ATK1156		D1602, 1603, 1620, 1621	EC10UA20	
				D1604, 1605, 1622, 1623	CRH01	
F				D1612	1SS302	
<b>RESISTORS</b>						
C	R2608, 2612, 2630, 2632	RS1/16S4701F	<b>RESISTORS</b>	D1625, 1628	1SS355	
	R2613	RAB4C472J				
	R2618	RS1/16S4702F				
	R2625, 2626	RS1/16S1501F				
	R2627	RS3LMF151J				
	R2629	RS1/16S1002F				
	R2635	RS1/16S4701F				
	R2636	RS1/16S5601F				
D	R2641, 2642	RS1/10S224J				
	R2652	RS1/16S6801F				
	Other Resistors	RS1/16S###J				
<b>CAPACITORS</b>						
E	C2601, 2604, 2609	CKSRYB104K16	<b>CAPACITORS</b>	C1601, 1614 (0.1 µF/100 V)	ACG1124	
	C2602, 2615	CKSRYB105K6R3		C1602-1605 (56 µF/80 V)	ACH1405	
	C2603	CKSRYF104Z50		C1609 (0.1 µF/100 V)	ACG1098	
	C2605, 2612, 2614	CKSRYB103K50		C1613	CKSRYB104K25	
	C2606	CEHAT221M6R3		C1619	CKSYB105K16	
	C2607	CKSRYB102K50				
	C2608, 2610	CEHAT101M25				
	C2611	CKSSYB104K10				
F	C2613	CEHAT221M25				
	All Resistors	RS1/16S###J				
<b>42 ADDRESS ASSY</b>						
<b>[42 ADR LOGIC] SEMICONDUCTORS</b>						
IC1501						
<b>MISCELLANEOUS</b>						
F	L1504	QTL1013	<b>MISCELLANEOUS</b>	CN2701	AKP1261	
	CN1501	AKM1348		CN2702	AKM1274	
	CN1502	AKM1290				
<b>RESISTORS</b>						
F			<b>RESISTORS</b>	R2705, 2710, 2713, 2716	RAB4C221J	
				R2719, 2722	RAB4C221J	
				Other Resistors	RS1/16S###J	

**Mark No.****Description****Part No.****CAPACITORS**

C2701, 2711, 2721, 2731 (0.22 $\mu$ F/250 V)	ACG1125
C2703, 2713, 2723, 2733	CKSRYB105K6R3
C2705-2707, 2715-2717	CCSRCH390J50
C2708, 2709, 2718, 2719	CCSRCH331J50
C2710, 2720, 2730, 2740	CCSRCH181J50
C2725-2727, 2735-2737	CCSRCH390J50
C2728, 2729, 2738, 2739	CCSRCH331J50
C2741, 2751 (0.22 $\mu$ F/250 V)	ACG1125
C2743, 2753	CKSRYB105K6R3
C2745-2747, 2755-2757	CCSRCH390J50
C2748, 2749, 2758, 2759	CCSRCH331J50
C2750, 2760	CCSRCH181J50

**42 SCAN B ASSY****SEMICONDUCTORS**

IC2801-2806	SN755870KPZT-P
IC2807	TC7SH08FUS1
D2801-2807	1SS355

**MISCELLANEOUS**

CN2801	AKP1261
CN2802	AKM1274

**RESISTORS**

R2803, 2808, 2811, 2814	RAB4C221J
R2817, 2820	RAB4C221J
Other Resistors	RS1/16S###J

**CAPACITORS**

C2801, 2811, 2821, 2831 (0.22 $\mu$ F/250 V)	ACG1125
C2803, 2813, 2823, 2833	CKSRYB105K6R3
C2805-2807, 2815-2817	CCSRCH390J50
C2808, 2809, 2818, 2819	CCSRCH331J50
C2810, 2820, 2830, 2840	CCSRCH181J50
C2825-2827, 2835-2837	CCSRCH390J50
C2828, 2829, 2838, 2839	CCSRCH331J50
C2841, 2851 (0.22 $\mu$ F/250 V)	ACG1125
C2843, 2853, 2861	CKSRYB105K6R3
C2845-2847, 2855-2857	CCSRCH390J50
C2848, 2849, 2858, 2859	CCSRCH331J50
C2850, 2860	CCSRCH181J50

**INTERFACE ASSY****SEMICONDUCTORS**

IC101,102	PST3628UR
IC103-106	TC74VCX541FT
IC107	TC74VHC08FTS1
IC109,112	TC7SZ00FU
IC110	TC7SH08FUS1
IC111	DS90CF388VJD
IC113	AGC1025
Q101	RN1901
D101	SML-310MT
D102	SML-310LT

**Mark No.****Description****Part No.****MISCELLANEOUS**

F101-103 FILETER	ATF1213
K101,102 TEST PIN	AKX9002
S104,105 SLIDE SWITCH	ASH1047
X101 XTAL RESONATOR (16 MHz)	ASS1145
CN101 CONNECTOR	CKS4830
CN102 31P CONNECTOR	AKM1239
CN103 40P CONNECTOR PBF	AKM1353
CN104 20P FFC CONNECTOR	AKM1235
CN106 CONNECTOR	CKS4829

**RESISTORS**

R101	RAB4C0R0J
R104	RAB4C220J
R105-109,113-115	RAB4C470J
R110-112,116	RAB4C103J
R117,119,175,185	RS1/16SS472J

R118,176	RS1/16SS0R0J
R121,138,141,142	RS1/16SS101J
R150,157,158,194	RS1/16SS103J
R151,155	RS1/16SS101J
R182	RS1/16SS105J
R184	RS1/16SS331J
R206	RS1/16SS103J

**CAPACITORS**

C103	CCSSCH100D50
C104	CCSSCH120J50
C105-107	CKSSYF104Z16
C108,112	CKSSYB472K16
C109-111,113	CKSSYB102K50
C114-121	ACH1369
C122-124,126,127	CKSRYF104Z16
C125,128,130-132	CKSRYF103Z50
C129,133-135,138	CKSRYF104Z16
C136,137,140,142	CKSRYF103Z50
C139,141,143	CKSRYF104Z16
C144,148,149	CKSRYF103Z50
C145-147,150-155	CKSRYF104Z16

**RESISTORS**

Other Resistors	RS1/16S###J
-----------------	-------------

C

D

E

F

## 2.2 PCB PARTS LIST (PDP-5016HD)

### MarkNo.      Description

### **LIST OF ASSEMBLIES**

		<u>Part No.</u>
A	NSP 1..PANEL CHASSIS (507) ASSY	AWU1148
	NSP 2..50 ADDRESS ASSY	AWV2303
	NSP 3..50 ADDRESS L ASSY	AWW1141
	NSP 3..50 ADDRESS S ASSY	AWW1142
	NSP 2..50 SCAN ASSY	AWV2304
	NSP 3..50 SCAN A ASSY	AWW1147
	NSP 3..50 SCAN B ASSY	AWW1148
B	NSP 1..50 X DRIVE ASSY	AWV2305
	2..50 X MAIN DRIVE ASSY	AWW1143
	2..50 X SUB DRIVE ASSY	AWW1144
	NSP 1..50 Y DRIVE ASSY	AWV2306
	2..50 Y MAIN DRIVE ASSY	AWW1145
	2..50 Y SUB DRIVE ASSY	AWW1146
	NSP 1..50 DIGITAL Assy	AWV2302
	2..50 DIGITAL ASSY	AWW1139
	2..SENSOR ASSY	AWW1140
	1..INTERFACE ASSY	AWV2373
C	△ 1..POWER SUPPLY UNIT	AXY1153
	1..SUB IR&LED ASSY	220-2208
	1..SUB POWER SWITCH ASSY	150-2070
	1..SUB KEY ASSY	220-2206
	1..SUB THERMAL SENSOR ASSY	220-2207
	1..SUB SIDE AV ASSY	220-2204
	1..MAIN ASSY ASSY (CPU (Digital))	010-2863

### Mark No.      Description

### **Part No.**

<b>50 DIGITAL ASSY</b>		
<b>[DIGITAL IF BLOCK]</b>		
<b>MISCELLANEOUS</b>		
F3001		CCG1162
CN3001	50P CONNECTOR	AKM1353
CN3002	20P FFC CONNECTOR	AKM1235
<b>RESISTORS</b>		
R3007, 3010-3016		RAB4C470J
R3020-3022		RAB4C103J
Other Resistors		RS1/16SS###J
<b>[MODULE UCOM BLOCK]</b>		
<b>SEMICONDUCTORS</b>		
IC3151		AGC1011
IC3152, 3153		SN74AHC541PW
IC3155		SN74AHC08PW
IC3156		BR24L04FJ-W
IC3157		M62334FP
IC3159		TC7W126FU
IC3160, 3161		TC74VHC123AFTS1
Q3151		2SJ461A
D3151, 3152, 3154, 3155		DAN202U
D3158, 3159, 3161-3163		1SS355
<b>MISCELLANEOUS</b>		
X3151		CSS1616
CN3151	CONNECTOR	AKM1276
CN3152	CONNECTOR	CKS4828
<b>RESISTORS</b>		
R3155, 3160, 3170, 3176		RAB4C101J
R3174		RAB4C103J
Other Resistors		RS1/16SS###J
<b>CAPACITORS</b>		
C3151		CEHVKW470M6R3
C3152, 3153, 3155-3158		CKSSYB104K10
C3159, 3171, 3172, 3182		CKSRYB105K6R3
C3162, 3163, 3165, 3166		CKSSYB104K10
C3164		CCSSCH101J50
C3167		CKSSYB103K16
C3168, 3170, 3181		CKSSYB104K10
<b>[PANEL FLASH BLOCK]</b>		
<b>SEMICONDUCTORS</b>		
IC3301		AGC1009
IC3302, 3305		PST3628UR
IC3303		SN74AHC08PW
IC3304		PST3610UR
Q3301		RN1901
Q3302		HN1C01FU
<b>MISCELLANEOUS</b>		
X3302		ASS1188
CN3301	CONNECTOR	CKS4835
<b>RESISTORS</b>		
R3307, 3308		RAB4C101J
Other Resistors		RS1/16SS###J

<u>Mark No.</u>	<u>Description</u>	<u>Part No.</u>	<u>Mark No.</u>	<u>Description</u>	<u>Part No.</u>
<b>CAPACITORS</b>					
C3301–3303, 3306, 3308		CKSSYB104K10	IC1001		TC74ACT541FT
C3304, 3307, 3309		CKSSYB472K16	IC1002		TC74VHC00FTS1
C3305, 3310		CKSSYB102K50	D1001–1004		1SS355
C3311		CCSRCH470J50			A
C3315, 3316		CKSSYB104K10			
C3317		CCSRCH471J50			
<b>[SQ ASIC BLOCK] SEMICONDUCTORS</b>					
IC3401		PEG239A	R1001, 1006		RAB4C470J
<b>MISCELLANEOUS</b>					
L3401–3403		QTL1013	R1004		RAB4C472J
F3401, 3402		CCG1162	VR1001		CCP1390
<b>RESISTORS</b>					
R3402, 3412		RAB4C101J	Other Resistors		RS1/16S###J
R3405–3407, 3409, 3410		RAB4C220J			
R3416		RAB4C220J			
R3425		RS1/16SS5601F			
Other Resistors		RS1/16SS###J			
<b>CAPACITORS</b>					
C3401, 3402, 3419, 3425		CEHVKW101M6R3	C1001		CEHAT470M16
C3403–3413, 3417, 3418		CKSSYB104K10	C1002, 1003		CKSRYB104K16
C3420–3424, 3426–3432		CKSSYB104K10	C1004		CCSRCH331J50
C3445–3448		CKSSYB104K10	C1006		CCSRCH680J50
<b>[50X RESONANCE BLCK]</b>					
<b>SEMICONDUCTORS</b>					
IC1101, 1105			IC1101, 1105		TND307TD
IC1102			IC1102		PS9117P
IC1104			IC1104		AXF1163
IC1107			Q1101		PS2701A-1(L)
Q1101			Q1102, 1103		2SC2412K
Q1102, 1103			Q1104, 1105		C
Q1104, 1105			D1101, 1103		QSZ2
D1101, 1103			D1102		2SC4081
D1102			D1104		UDZS5R6(B)
D1104					CRH01
					UDZS15(B)
<b>[ADDRESS CN BLOCK] SEMICONDUCTORS</b>					
Q3501, 3502		RN1901	L1101		ATH1217
D3501, 3502		DAN202U	L1106		ATH1216
<b>MISCELLANEOUS</b>					
CN3501–3504, 3506 40P CONNECTOR	AKM1348		F1101		CTF1449
CN3505 18P CONNECTOR	VKN1310		1101		ANH1653
			1102		AEH1092
<b>RESISTORS</b>					
R3519, 3520		RAB4C472J	1103		BMZ30P080FTC
R3521, 3522, 3525		RAB4C101J			
R3524		RAB4C222J			
Other Resistors		RS1/16SS###J			
<b>[DIGITAL DD CON BLOCK] SEMICONDUCTORS</b>					
IC3601		BA80BC0WFP	R1107, 1108		RS3LMF100J
<b>MISCELLANEOUS</b>					
U3601 DD CON UNIT		AXY1137	R1109, 1110		RS1/10S4702F
			R1113		RS1/16S1002F
			R1114		RS1/16S3302F
			R1115		ACN1259
			R1119		E
			R1121		ACN1258
			Other Resistors		RS1/16S4701F
					RS1/16S###J
<b>RESISTORS</b>					
R3611		RAB4C101J			
Other Resistors		RS1/16SS###J			
<b>CAPACITORS</b>					
C3609		CKSSYB104K10	C1101, 1114		CEHAT470M25
C3611		CKSQYB105K16	C1102, 1115		CKSRYF104Z50
C3612		ACH1394	C1103		CKSRYB104K16
C3613		CKSSYB103K16	C1104, 1117		CKSYB105K25
			C1107, 1116		ACG1126
			C1113		ACH1450
			C1121–1124		ACE1178
<b>50 X MAIN DRIVE ASSY</b>					
<b>[50X LOGIC BLOCK] SEMICONDUCTORS</b>					
IC1201, 1204, 1206, 1208			[50X SUS BLOCK] SEMICONDUCTORS		
			IC1201, 1204, 1206, 1208		TND307TD

<b>Mark No.</b>	<b>Description</b>	<b>Part No.</b>	<b>Mark No.</b>	<b>Description</b>	<b>Part No.</b>
IC1202, 1205		PS9117P	3101, 3101		ANG2679
IC1209		MM1565AF	3101		ANG2679
Q1201, 1208		2SC2412K			
Q1202, 1204, 1205, 1207		H5N2512LS			
Q1209, 1212–1214		QSZ2			
Q1210, 1211		FKP280AS			
Q1215, 1221		FKP300AS			
Q1216		DTC143EK			
Q1217		DTC123TKA			
Q1220		R5009ANJ			
D1201, 1205		UDZS5R6(B)			
D1202, 1203, 1206, 1211		CRH01	Q1305		2SA1037K
D1204		D1FL40	Q1402		2SC4081
D1208		1SS302	D1307		CRF03
D1209		UDZS16(B)	D1308, 1403		UDZS5R1(B)
D1210		1SS355	D1309, 1311, 1401, 1405		CRH01
D1212		CRH01			
D1213		UDZS8R2(B)	D1312, 1402		1SS301
			D1313, 1318, 1404, 1406		1SS355
			D1315, 1316		UDZS4R7(B)
<b>MISCELLANEOUS</b>					
L1201, 1203, 1204		BTH1134			ATK1160
L1202		ATH1186	T1302		ATK1159
F1227		CTF1449	T1401		
K1202 TEST PIN		AKX1061			
KN1201–1204, 1210–1217		ANK1841			
CN1201 14P CONNECTOR		14PL-FJ			
CN1204 8P TOP POST		B8B-EH			
1202 SCREW		PMB30P080FNI			
<b>RESISTORS</b>					
R1208, 1210, 1213, 1215		RS1/10S100J			
R1211		ACN1254			
R1219, 1228, 1230, 1231		RS1/10SOR0J			
R1220, 1224, 1233, 1256		RS1/10S2R2J			
R1237		RS1/10SOR0J			
R1239		ACN1258			
R1245		ACN1257			
R1247, 1248		RS3LMF470J			
Other Resistors		RS1/16S###J			
<b>CAPACITORS</b>					
C1201, 1212		ACG1126			
C1202, 1209, 1232, 1236		CKSRYB104K16			
C1203, 1208, 1215, 1229		CKSRYF104Z50			
C1205, 1206, 1217, 1218		ACG1139			
C1207, 1214, 1220, 1226		CEHAT470M25			
C1210, 1211, 1216, 1241		CKSYB105K25			
C1213		CCSRCH221J50			
C1222, 1223		ACH1423			
C1224, 1225		ACE1178			
C1228		CEHAT2R2M2E			
C1230		ACH1449			
C1231, 1237		CEHAT101M10			
C1233		CKSRYB473K16			
C1234		CEHAT470M16			
C1235		CKSRYB105K6R3			
C1244		CKSRYB104K25			
<b>[DRIVE HEAT SINK M]</b>					
<b>MISCELLANEOUS</b>					
3001, 3001		ANH1656			
3001		ANH1656			
<b>[DRIVE HEAT SINK M]</b>					
<b>MARK NO.</b>					
<b>DESCRIPTION</b>					
<b>Part No.</b>					
<b>Mark No.</b>					
<b>Description</b>					
<b>Part No.</b>					
<b>[50X D-D CON BLOCK]</b>					
<b>SEMICONDUCTORS</b>					
IC1301					
IC1302					
Q1301					
Q1303, 1306, 1307					
Q1304, 1401					
<b>MISCELLANEOUS</b>					
T1302					
T1401					
<b>RESISTORS</b>					
R1312–1314, 1317					
R1328					
VR1301					
Other Resistors					
<b>CAPACITORS</b>					
C1301, 1302, 1405, 1406					
C1308, 1401, 1407					
C1310, 1313, 1402					
C1311					
C1312, 1403					
C1314					
C1404					
<b>50 X SUB DRIVE ASSY</b>					
<b>SEMICONDUCTORS</b>					
Q1501					
Q1502					
Q1504, 1505					
Q1507					
D1501					
<b>MISCELLANEOUS</b>					
K1501 TEST PIN					
KN1501–1505 GROUND PLATE					
CN1501 14P CONNECTOR					
1502 SCREW					
<b>RESISTORS</b>					
R1502, 1503					
R1507, 1508					
Other Resistors					
<b>CAPACITORS</b>					
C1501					
C1503, 1504					
C1505					
C1506					

**Mark No.**      **Description****Part No.****Mark No.**      **Description****Part No.****MISCELLANEOUS**

3001, 3001  
3101, 3101

ANH1656  
ANG2679

**CAPACITORS**

C2101, 2114  
C2102, 2115  
C2103  
C2104, 2116  
C2107

CEHAT470M25  
CKSRYF104Z50  
CKSRYB104K16  
CKSYB105K25  
ACG1139

**RESISTORS**

Other Resistors

RS1/16S###J

C2108–2111  
C2113  
C2117

ACE1178  
ACH1450  
ACG1138

**50 Y MAIN DRIVE ASSY****[50Y LOGIC BLOCK]****SEMICONDUCTORS**

IC2001, 2003  
IC2002  
D2001, 2006, 2007, 2011  
D2003–2005  
D2012

TC74ACT541FT  
TC74ACT540FT  
1SS355  
1SS301  
1SS355

**[50Y SUS BLOCK]**  
**SEMICONDUCTORS**

IC2201, 2203, 2205, 2208  
IC2204, 2209

TND307TD  
PS9117P

**MISCELLANEOUS**

K2011, 2014 TEST PIN  
CN2001 40P CONNECTOR

AKX1061  
AKM1348

Q2201

2SA2142

**RESISTORS**

R2001, 2003, 2008, 2020  
R2002, 2006  
R2004, 2005, 2013, 2025  
VR2001, 2002  
Other Resistors

RAB4C470J  
RAB4C101J  
RAB4C472J  
CCP1390  
RS1/16S###J

Q2202, 2214  
Q2203  
Q2204, 2206, 2207, 2209  
Q2210, 2216

2SC4081  
R5009ANJ  
H5N2512LS  
FKP280AS

**CAPACITORS**

C2001  
C2002–2004  
C2005, 2006  
C2007

CEHAT470M16  
CKSRYB104K16  
CCSRCH331J50  
CCSRCH680J50

Q2201, 2213, 2217, 2219  
Q2215, 2221, 2222, 2241  
Q2220, 2223

H5N2512LS  
QSZ2  
FKP300AS

**[50Y RESONANCE BLCOK]****SEMICONDUCTORS**

IC2101, 2104  
IC2102  
IC2106  
IC2107  
Q2101

TND307TD  
PS9117P  
PS2701A-1(L)  
AXF1163  
2SC2412K

D2207  
D2208, 2212  
D2210, 2213, 2216  
D2211  
D2219

CRF03  
UDZS5R6(B)  
CRH01  
D1FL40  
1SS301

Q2103, 2106  
Q2110, 2111  
D2101, 2112  
D2107  
D2113

QSZ2  
2SC4081  
UDZS5R6(B)  
CRH01  
UDZS15(B)

D2220–2222, 2231, 2301  
D2223, 2224  
D2241

CRH01  
UDZS16(B)  
UDZS8R2(B)

**MISCELLANEOUS**

L2101  
L2103  
F2101  
2101  
2102

ATH1217  
ATH1216  
CTF1449  
ANH1653  
AEH1092

**MISCELLANEOUS**

L2201, 2203, 2204  
L2202  
F2201–2214  
F2221  
K2202–2204 TEST PIN

BTH1134  
ATH1186  
ATX1062  
CTF1449  
AKX1061  
ANK1841  
14PL-FJ  
B9B-EH  
PMB30P080FNI

**RESISTORS**

R2109  
R2112, 2133  
R2113, 2114  
R2118  
R2120

R2121  
R2126  
R2129  
Other Resistors

ACN1259  
ACN1255  
RS1/10S4702F  
ACN1241  
RS1/16S1002F

RS1/16S3302F  
RS1/16S4701F  
ACN1258  
RS1/16S###J

**RESISTORS**

R2201  
R2202, 2204  
R2217, 2219, 2222, 2224  
R2225  
R2226, 2235, 2243, 2246

R2228, 2230, 2236, 2238  
R2234, 2255, 2372  
R2260

RS3LMF821J  
RS1/10S151J  
RS1/10S100J  
ACN1254  
RS1/10S2R2J

RS1/10S100J  
RS1/10S0R0J  
ACN1257

<b>Mark No.</b>	<b>Description</b>	<b>Part No.</b>	<b>Mark No.</b>	<b>Description</b>	<b>Part No.</b>
R2264		ACN1258	R2413		RS1/16S1802F
R2280		RS3LMF471J	R2414, 2415		RS1/16S4702F
A R2281-2284		ACN1241	R2416		RS1/10S0R0J
R2341, 2343		RS2LMF5R6J	R2420, 2421, 2424		RS1/10S473J
Other Resistors		RS1/16S###J	R2426		RAB4C472J
<b>CAPACITORS</b>			VR2401		CCP1392
C2201, 2209, 2215, 2222		CEHAT470M25	VR2402		CCP1390
C2202, 2208, 2210, 2216		CKSRYF104Z50	Other Resistors		RS1/16S###J
C2203		ACH1427			
C2204		CCSRCH102J50			
C2205, 2256		ACG1126			
B C2207, 2217, 2248, 2253		CKSRYB104K16			
C2211, 2212, 2225, 2226		ACG1139	C2403, 2404		CKSRYB104K25
C2218, 2219, 2224, 2261		CKSYB105K25	C2405, 2407, 2412		CKSRYB104K16
C2221		CCSRCH221J50	C2408		CEHAT101M16
C2223, 2232		CKSRYF104Z50			
C2227, 2231		CEHAT470M25	C2409		CEHAT470M25
C2234, 2240		CEHAT2R2M2E	C2410		CEHAT101M25
C2237, 2241		ACH1423	C2411		ACH1450
C2238, 2239		ACE1178	C2413		CEHAT221M16
C2244		ACH1449	C2421		ACH1451
C2246		ACH1426			
C2247, 2252		CEHAT101M10			
C2249		CKSRYB473K16			
C2250		CEHAT470M16			
C2251		CKSRYB105K6R3			
C2271, 2276		CKSRYB104K25			
<b>[DRIVE HEAT SINK M]</b>					
<b>MISCELLANEOUS</b>					
3001, 3001		ANH1656			
3001		ANH1656			
3101, 3101		ANG2679			
3101		ANG2679			
D [50Y VH D-D CON BLOCK]					
<b>SEMICONDUCTORS</b>					
IC2401		BA10358F			
IC2402		MIP2E3DMU			
IC2403		PS2701A-1(L)			
IC2405, 2412		TA76431FR			
Q2401		2SC3425			
Q2402		2SD2568			
Q2403		2SC4081			
Q2404		HN1C01FU			
D2402, 2407		CRF03			
D2403		UDZS33(B)			
D2404		1SS355			
D2406, 2410		UDZS4R7(B)			
D2408, 2409		CRH01			
D2411		UDZS12(B)			
<b>MISCELLANEOUS</b>					
L2401		BTH1136			
T2401		ATK1158			
<b>RESISTORS</b>					
F R2401, 2402		RS1/10S104J			
R2403, 2404, 2406		RS1/10S2203F			
R2407, 2410		RS1/16S5601F			
R2412		RS1/16S1003F			
			R2533		RS3LMF151J
			R2536		RS1/16S1002F
			R2544		RS1/16S4701F
			R2550		RS1/16S5601F
			R2554		RS1/16S6801F

<u>Mark No.</u>	<u>Description</u>	<u>Part No.</u>	<u>Mark No.</u>	<u>Description</u>	<u>Part No.</u>
VR2501 Other Resistors		CCP1390 RS1/16S###J	[DRIVE HEAT SINK M] <b>MISCELLANEOUS</b>		
<b>CAPACITORS</b>			3001, 3001 3101, 3101		A ANH1656 ANG2679
C2501, 2502, 2514 C2503, 2515 C2504 C2505, 2506, 2512 C2507		CEHAT101M25 ACG1105 CKSRYB102K50 CKSRYB104K16 CEHAT221M6R3	<b>RESISTORS</b>	All Resistors	RS1/16S###J
C2508 C2509, 2510, 2518 C2511, 2516 C2513 C2517		CEHAT221M25 CKSRYB103K50 CKSRYB105K6R3 CKSYB105K25 CKSRYF104Z50	<b>50 ADDRESS L ASSY</b> <b>[50 ADR L LOGIC]</b> <b>SEMICONDUCTORS</b>		
C2519–2521, 2525		CKSRYB104K16	IC1601		B PEE003B
<b>[50Y SCAN BLOCK]</b> <b>SEMICONDUCTORS</b>			<b>MISCELLANEOUS</b>		
IC2601–2603, 2607 IC2604–2606 IC2610, 2611		TLP116 PS9117P TC74AC540FT	L1601 CN1601 CONNECTOR CN1602 40P CONNECTOR		QTL1013 AKM1290 AKM1348
<b>MISCELLANEOUS</b>			<b>RESISTORS</b>	R1601–1605 Other Resistors	RS1/16SS1000F RS1/16SS###J
L2601, 2611 CN2601 15P CONNECTOR		BTH1134 AKM1200	<b>CAPACITORS</b>	C1601–1604, 1607 C1605, 1606 C1608, 1609 C1651–1656 C1657–1662	CKSSYF104Z16 CKSSYB102K50 CKSRYB105K6R3 ACG1105 CKSSYF104Z16
<b>RESISTORS</b>				C1664, 1666, 1668	CCSSCH390J50
R2624 R2631 Other Resistors		RAB4C220J RS1/10S0R0J RS1/16S###J			
<b>CAPACITORS</b>			<b>[50 ADR L RESONANCE]</b> <b>SEMICONDUCTORS</b>		
C2601, 2623 C2602, 2603, 2611–2617 C2621, 2622 C2631		CEHAT101M10 CKSRYB104K16 ACH1450 CKSRYB104K16	IC1720 Q1710, 1711 Q1731, 1741, 1751, 1761 Q1771, 1781 Q1790		C TND307TD QSZ2 HAT3041R HAT3041R 2SA1163
<b>50 Y SUB DRIVE ASSY</b>					
<b>SEMICONDUCTORS</b>					
Q2701 Q2711 Q2721, 2723, 2725, 2726 Q2731 D2701		FKP280AS FKP300AS H5N2512LS QSZ2 CRH01	Q1791 D1710, 1737, 1747, 1757 D1731, 1741, 1751, 1761 D1734, 1744, 1754, 1764 D1736, 1738, 1746, 1748		D RN1901 1SS302 UDZS15(B) EP05FA20 1SS355
<b>MISCELLANEOUS</b>					
F2701–2706 K2701 TEST PIN KN2701, 2702, 2711–2713 CN2701 14P CONNECTOR 2702 SCREW		ATX1062 AKX1061 ANK1841 14R-FJ PMB30P080FNI	D1756, 1758, 1766, 1768 D1767, 1777, 1787 D1771, 1781 D1774, 1784 D1776, 1778, 1786, 1788		E 1SS355 1SS302 UDZS15(B) EP05FA20 1SS355
<b>RESISTORS</b>			<b>MISCELLANEOUS</b>		
R2702, 2712 R2722, 2724, 2726, 2727 R2732 Other Resistors		RS1/10S2R2J RS1/10S100J RS1/10S0R0J RS1/16S###J	L1730, 1740, 1750, 1760 L1770, 1780		
<b>CAPACITORS</b>			<b>RESISTORS</b>	R1710, 1711 Other Resistors	
C2701 C2702 C2703 C2711, 2721 C2731		ACE1178 ACH1423 ACG1088 ACG1139 CKSYB105K25	<b>CAPACITORS</b>	C1710 C1711 C1730, 1740, 1750, 1760 C1731, 1741, 1751, 1761 C1770, 1780	F CKSYB105K25 ACG1098 ACG1137 ACG1136 ACG1137

**Mark No.**      **Description****Part No.**

C1771, 1781

ACG1136

**50 ADDRESS S ASSY****[50 ADR S LOGIC]  
SEMICONDUCTORS**

IC1801

PEE003B

**MISCELLANEOUS**

L1801

QTL1013

CN1801 CONNECTOR

AKM1290

CN1802 40P CONNECTOR

AKM1348

**RESISTORS**

R1801–1805

RS1/16SS1000F

Other Resistors

RS1/16SS###J

**CAPACITORS**

C1801–1804, 1807

CKSSYF104Z16

C1805, 1806

CKSSYB102K50

C1808, 1809

CKSRYB105K6R3

C1851–1855

ACG1105

C1857–1861

CKSSYF104Z16

C1864

CCSSCH390J50

C1866

CCSSCH101J50

**[50 ADR S RESONANCE]  
SEMICONDUCTORS**

IC1920

TND307TD

Q1910, 1911

QSZ2

Q1931, 1941, 1951, 1961

HAT3041R

Q1971

HAT3041R

Q1990

2SA1163

Q1991

RN1901

D1910, 1937, 1947, 1957

1SS302

D1931, 1941, 1951, 1961

UDZS15(B)

D1934, 1944, 1954, 1964

EP05FA20

D1936, 1938, 1946, 1948

1SS355

D1956, 1958, 1966, 1968

1SS355

D1967, 1977

1SS302

D1971

UDZS15(B)

D1974

EP05FA20

D1976, 1978

1SS355

**MISCELLANEOUS**

L1930, 1940, 1950, 1960

ATH1199

L1970

ATH1199

**RESISTORS**

R1910, 1911

RS1/16SS220J

Other Resistors

RS1/16S###J

**CAPACITORS**

C1910

CKSYB105K25

C1911

ACG1098

C1930, 1940, 1950, 1960

ACG1137

C1931, 1941, 1951, 1961

ACG1136

C1970

ACG1137

C1971

ACG1136

**Mark No.**      **Description****50 SCAN A ASSY****SEMICONDUCTORS**

IC2801–2806

SN755870KPZT-P

D2801

CRH01

D2802–2807, 2809, 2811

1SS302

D2810

1SS355

**MISCELLANEOUS**

CN2801 13P CONNECTOR NONPCB

AKP1261

CN2802 CONNECTOR

AKM1281

CN2803 PH CONNECTOR

AKP1306

**RESISTORS**

R2805, 2810, 2813, 2816

RAB4C221J

R2819, 2822

RAB4C221J

Other Resistors

RS1/16S###J

**CAPACITORS**

C2801, 2802, 2811, 2812

ACG1088

C2803, 2813, 2823, 2833

CKSRYB105K6R3

C2805–2807, 2815–2817

CCSRCH220J50

C2808–2810, 2818–2820

CCSRCH151J50

C2821, 2822, 2831, 2832

ACG1088

C2825–2827, 2835–2837

CCSRCH220J50

C2828–2830, 2838–2840

CCSRCH151J50

C2841, 2842, 2851, 2852

ACG1088

C2843, 2853

CKSRYB105K6R3

C2845–2847, 2855–2857

CCSRCH220J50

C2848–2850, 2858–2860

CCSRCH151J50

**50 SCAN B ASSY****SEMICONDUCTORS**

IC2901–2906

SN755870KPZT-P

IC2907

TC7SH08FUS1

D2902–2908

1SS302

D2909

1SS355

**MISCELLANEOUS**

CN2901 CONNECTOR

AKM1281

CN2902 PH CONNECTOR

AKP1306

**RESISTORS**

R2903, 2908, 2911, 2914

RAB4C221J

R2917, 2920

RAB4C221J

Other Resistors

RS1/16S###J

**CAPACITORS**

C2901, 2902, 2911, 2912

ACG1088

C2903, 2913, 2923, 2933

CKSRYB105K6R3

C2905–2907, 2915–2917

CCSRCH220J50

C2908–2910, 2918–2920

CCSRCH151J50

C2921, 2922, 2931, 2932

ACG1088

C2925–2927, 2935–2937

CCSRCH220J50

C2928–2930, 2938–2940

CCSRCH151J50

C2941, 2942, 2951, 2952

ACG1088

C2943, 2953, 2961

CKSRYB105K6R3

C2945–2947, 2955–2957

CCSRCH220J50

C2948–2950, 2958–2960

CCSRCH151J50

Mark No.DescriptionPart No.**INTERFACE ASSY****SEMICONDUCTORS**

IC101,102	PST3628UR
IC103-106	TC74VCX541FT
IC107	TC74VHC08FTS1
IC109,112	TC7SZ00FU
IC110	TC7SH08FUS1
IC111	DS90CF388VJD
IC113	AGC1025
Q101	RN1901
D101	SML-310MT
D102	SML-310LT

A

**MISCELLANEOUS**

F101-103 FILETER	ATF1213
K101,102 TEST PIN	AKX9002
S104,105 SLIDE SWITCH	ASH1047
X101 XTAL RESONATOR (16 MHz)	ASS1145
CN101 CONNECTOR	CKS4830
CN102 31P CONNECTOR	AKM1239
CN103 40P CONNECTOR PBF	AKM1353
CN104 20P FFC CONNECTOR	AKM1235
CN106 CONNECTOR	CKS4829

B

**RESISTORS**

R101	RAB4C0R0J
R104	RAB4C220J
R105-109,113-115	RAB4C470J
R110-112,116	RAB4C103J
R117,119,175,185	RS1/16SS472J
R118,176	RS1/16SS0R0J
R121,138,141,142	RS1/16SS101J
R150,157,158,194	RS1/16SS103J
R151,155	RS1/16SS101J
R182	RS1/16SS105J
R184	RS1/16SS331J
R206	RS1/16SS103J

C

**CAPACITORS**

C103	CCSSCH100D50
C104	CCSSCH120J50
C105-107	CKSSYF104Z16
C108,112	CKSSYB472K16
C109-111,113	CKSSYB102K50
C114-121	ACH1369
C122-124,126,127	CKSRYF104Z16
C125,128,130-132	CKSRYF103Z50
C129,133-135,138	CKSRYF104Z16
C136,137,140,142	CKSRYF103Z50
C139,141,143	CKSRYF104Z16
C144,148,149	CKSRYF103Z50
C145-147,150-155	CKSRYF104Z16

D

E

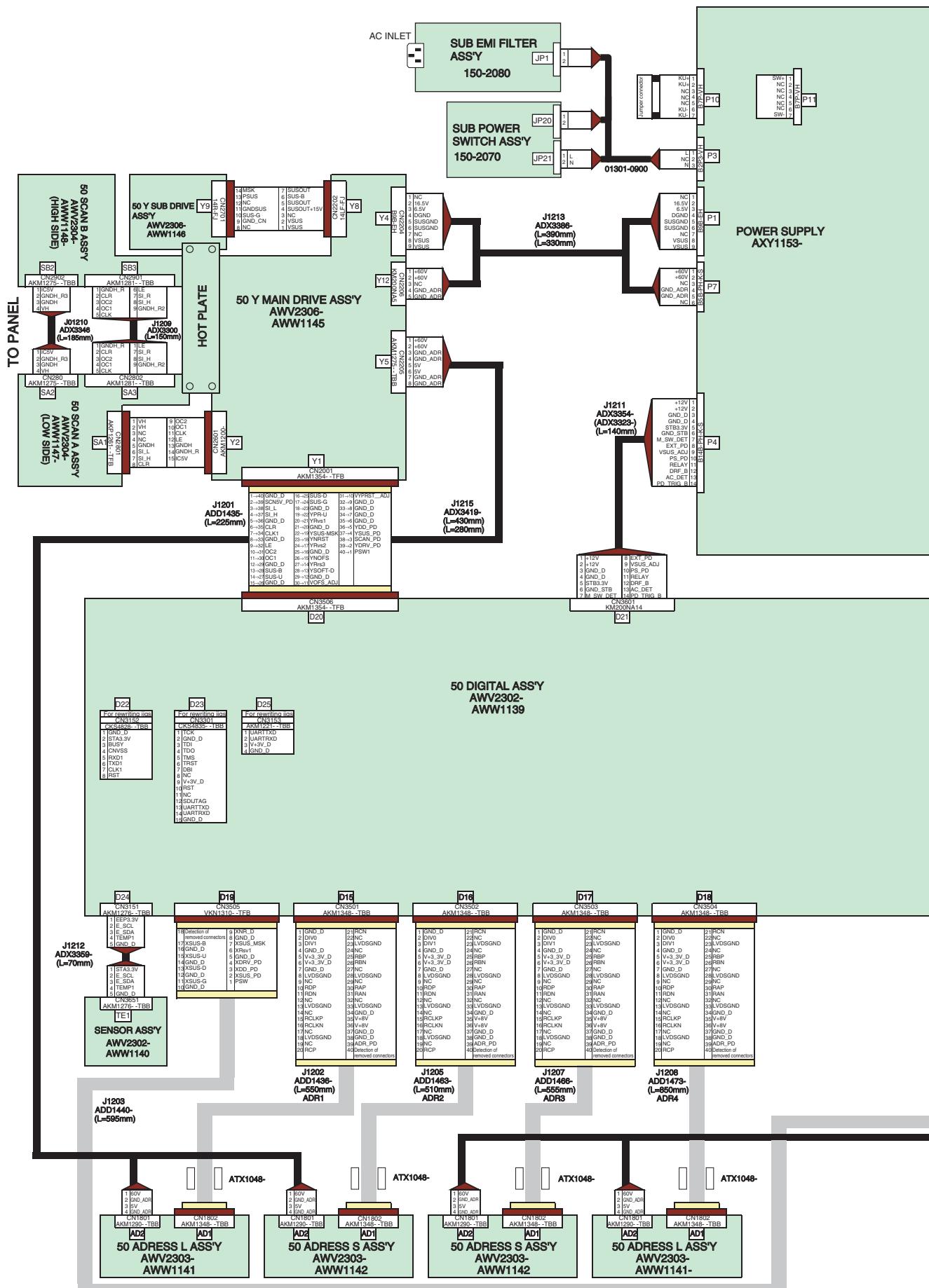
**RESISTORS**

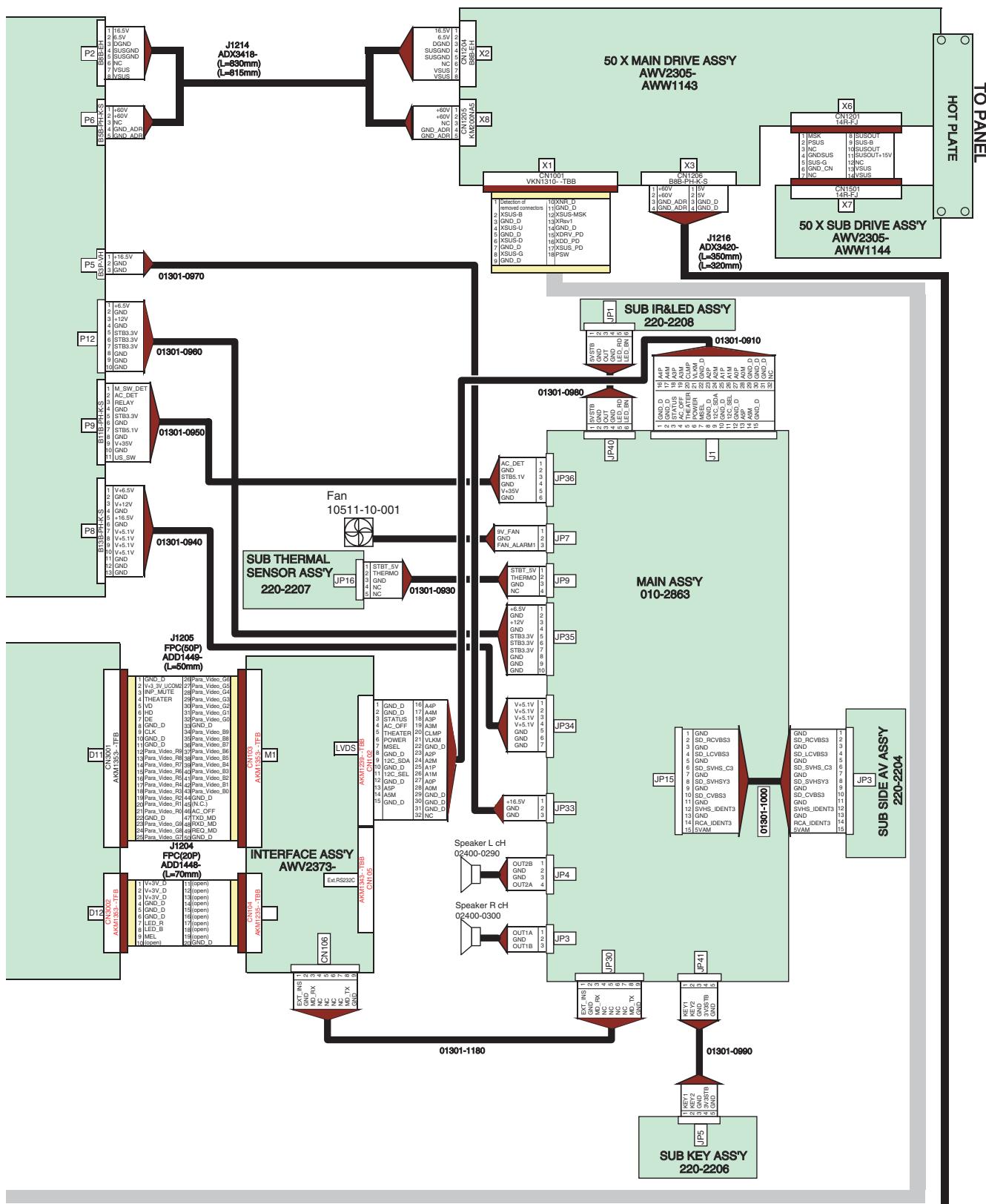
Other Resistors	RS1/16S###J
-----------------	-------------

F

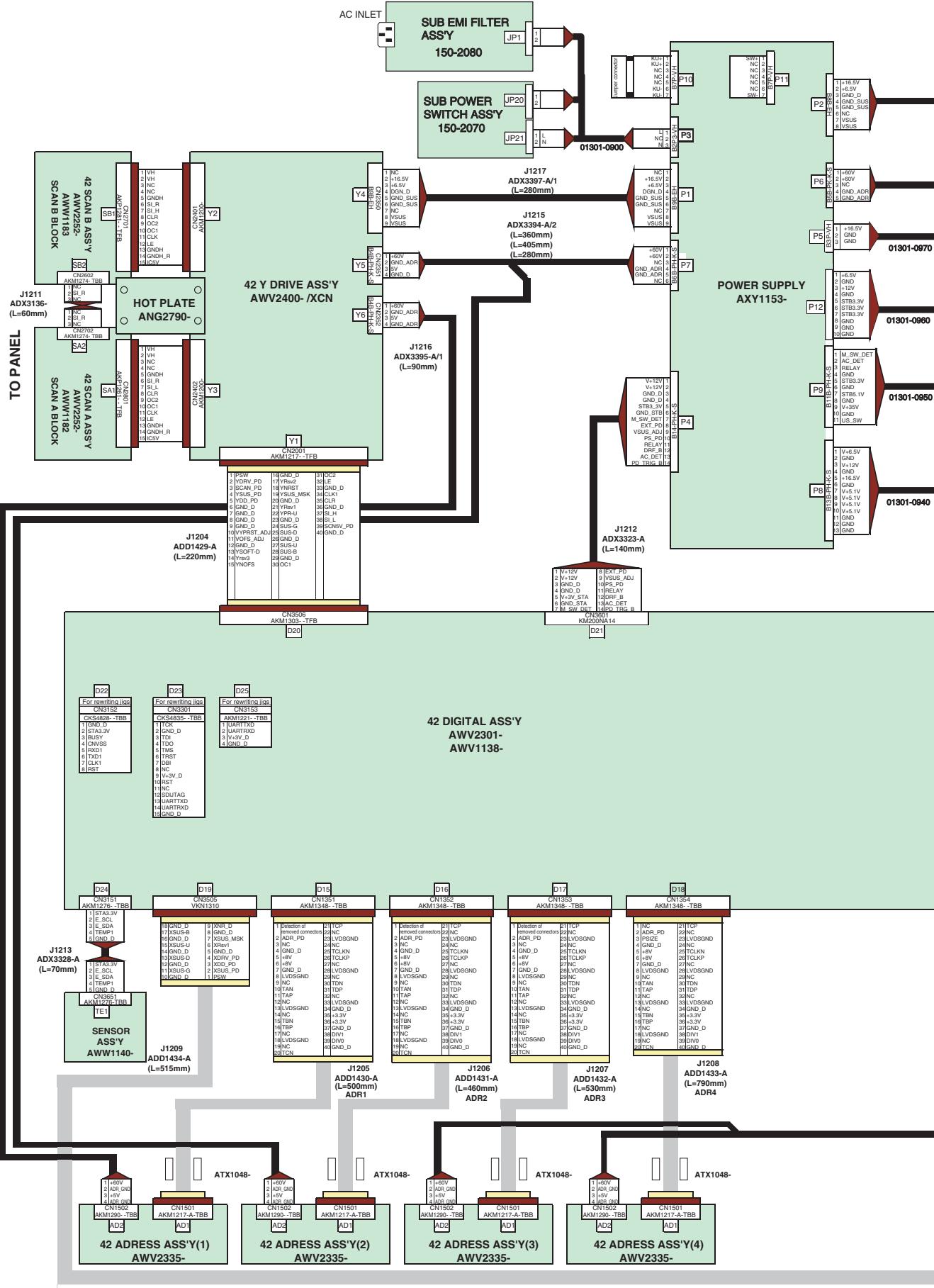
# 3. BLOCK DIAGRAM AND SCHEMATIC DIAGRAM

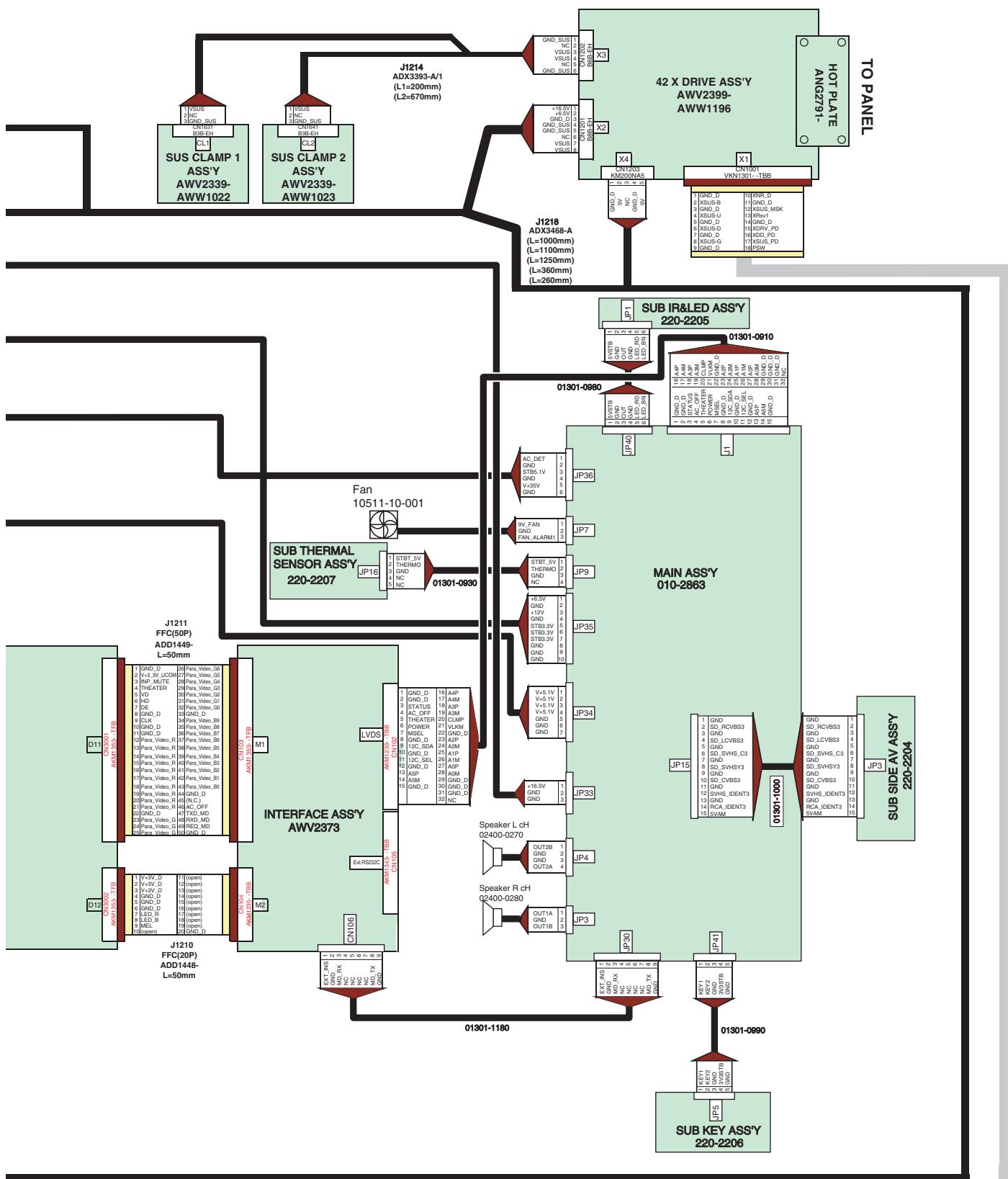
## 3.1 OVERALL CONNECTION DIAGRAM (PDP-5016HD)



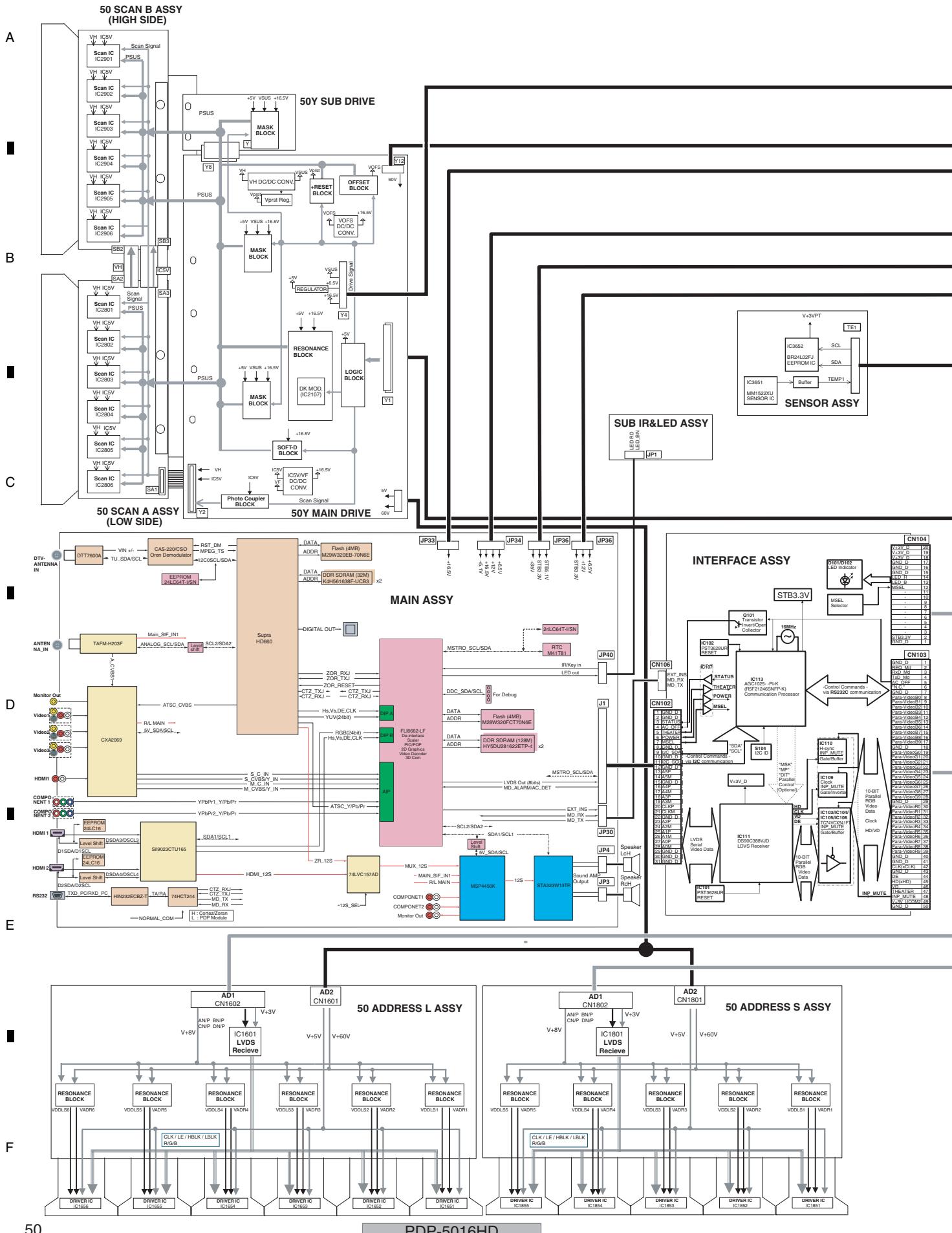


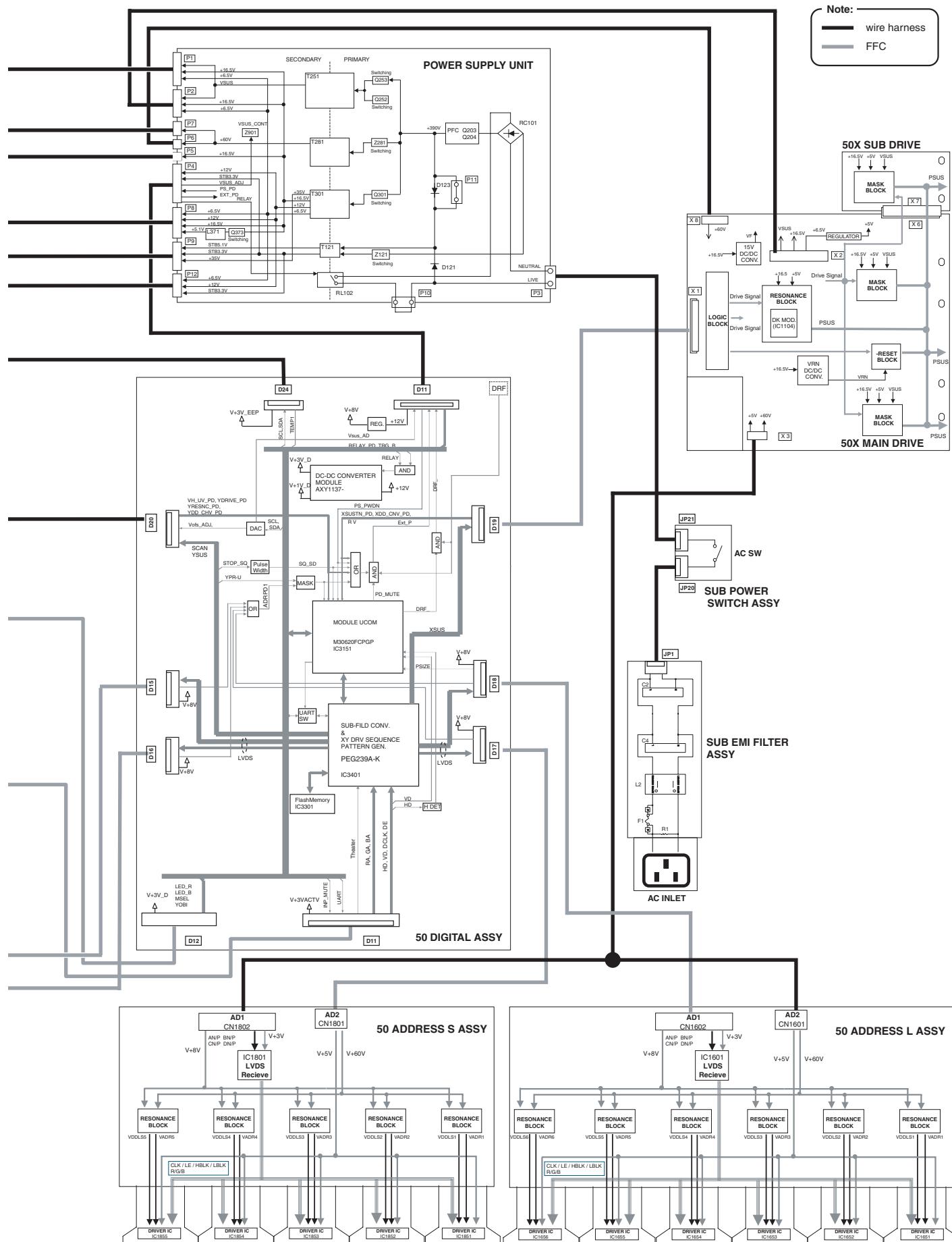
## 3.2 OVERALL CONNECTION DIAGRAM (PDP-4216HD)



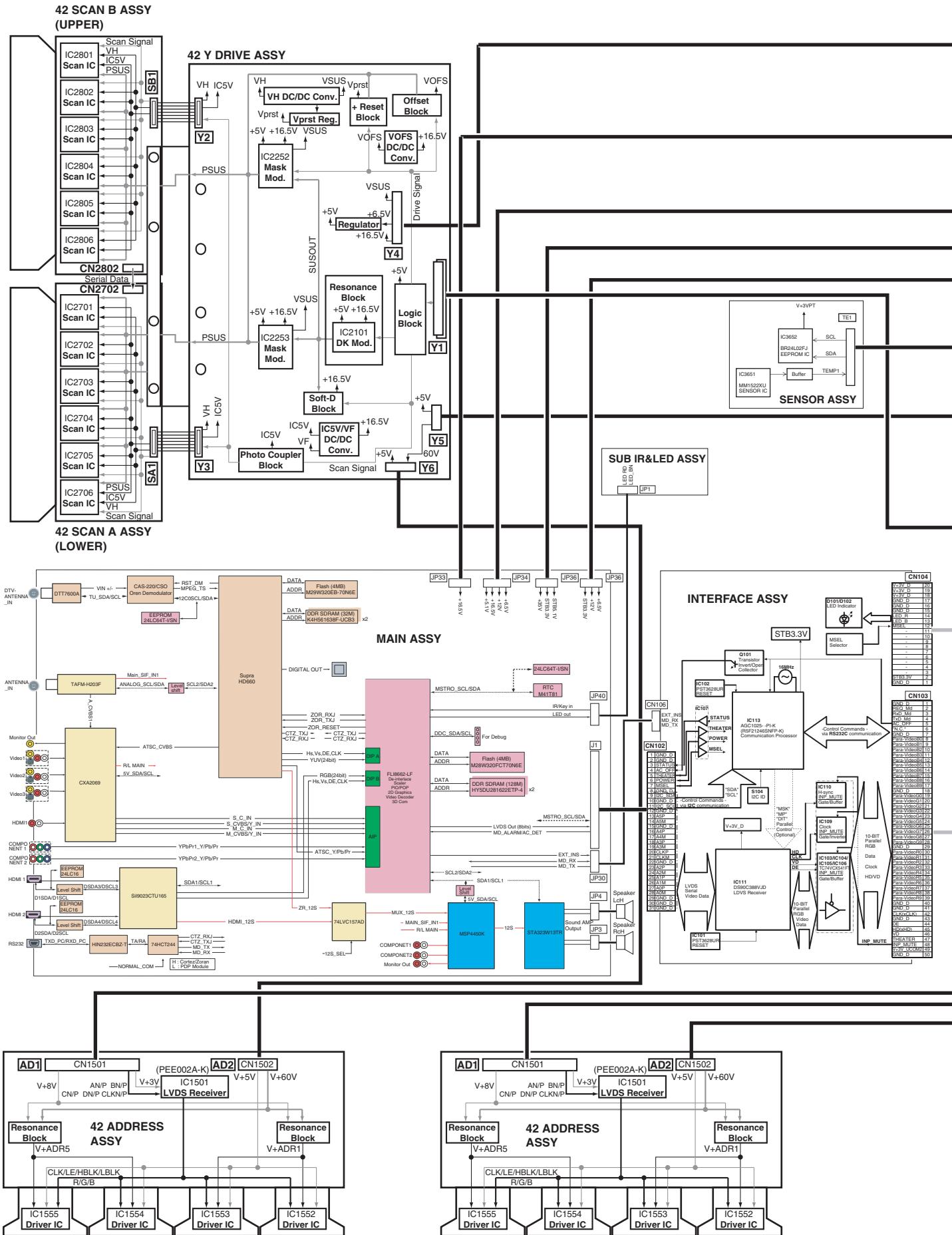


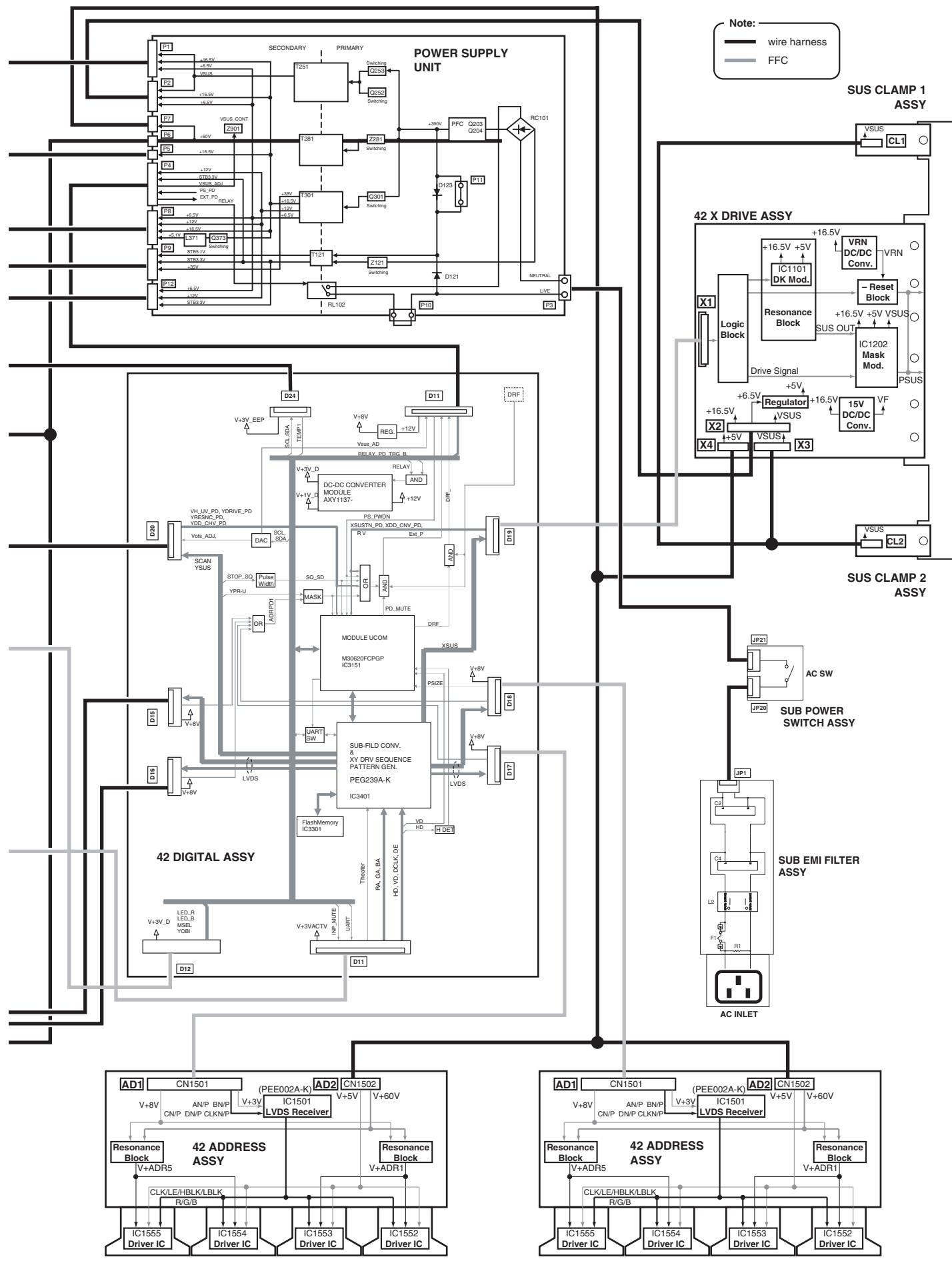
### **3.3 OVERALL BLOCK DIAGRAM (PDP-5016HD)**





## 3.4 OVERALL BLOCK DIAGRAM (PDP-4216HD)

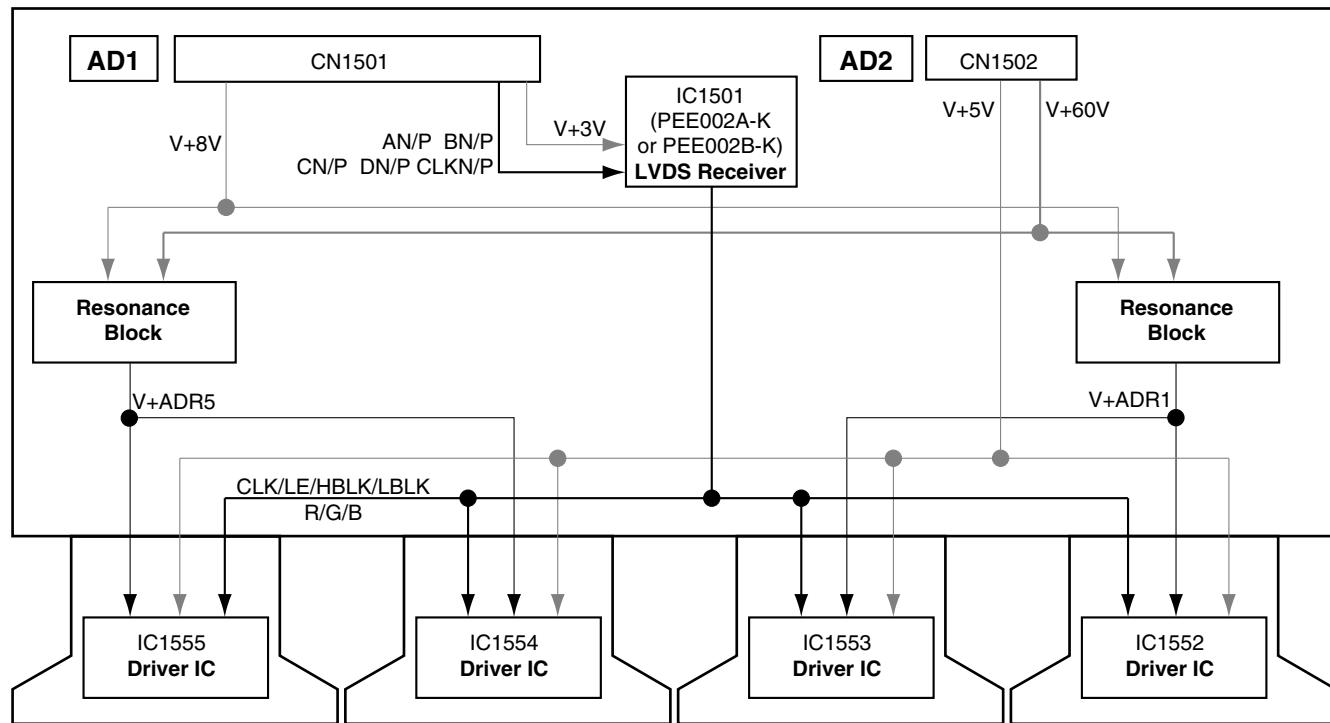




## 3.5 42 ADDRESS ASSY (PDP-4216HD)

A

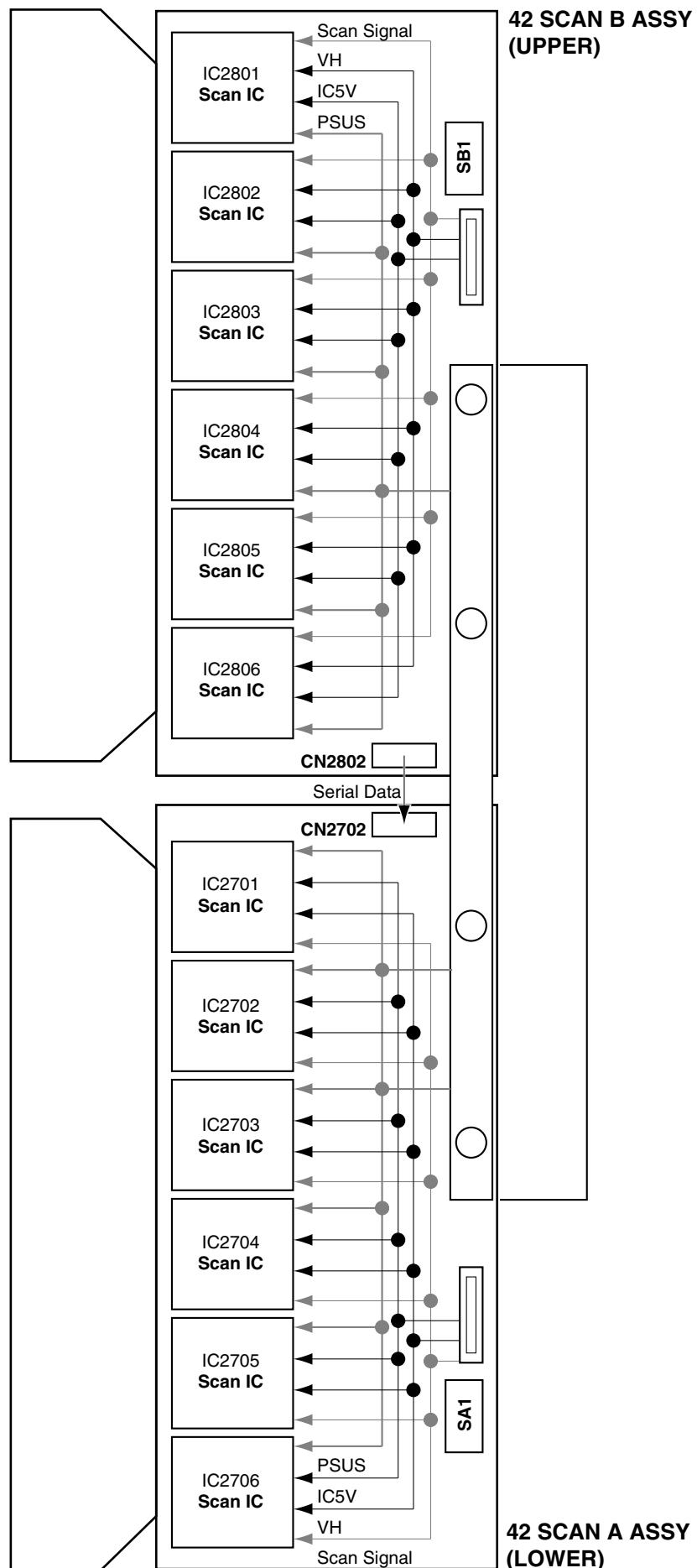
B



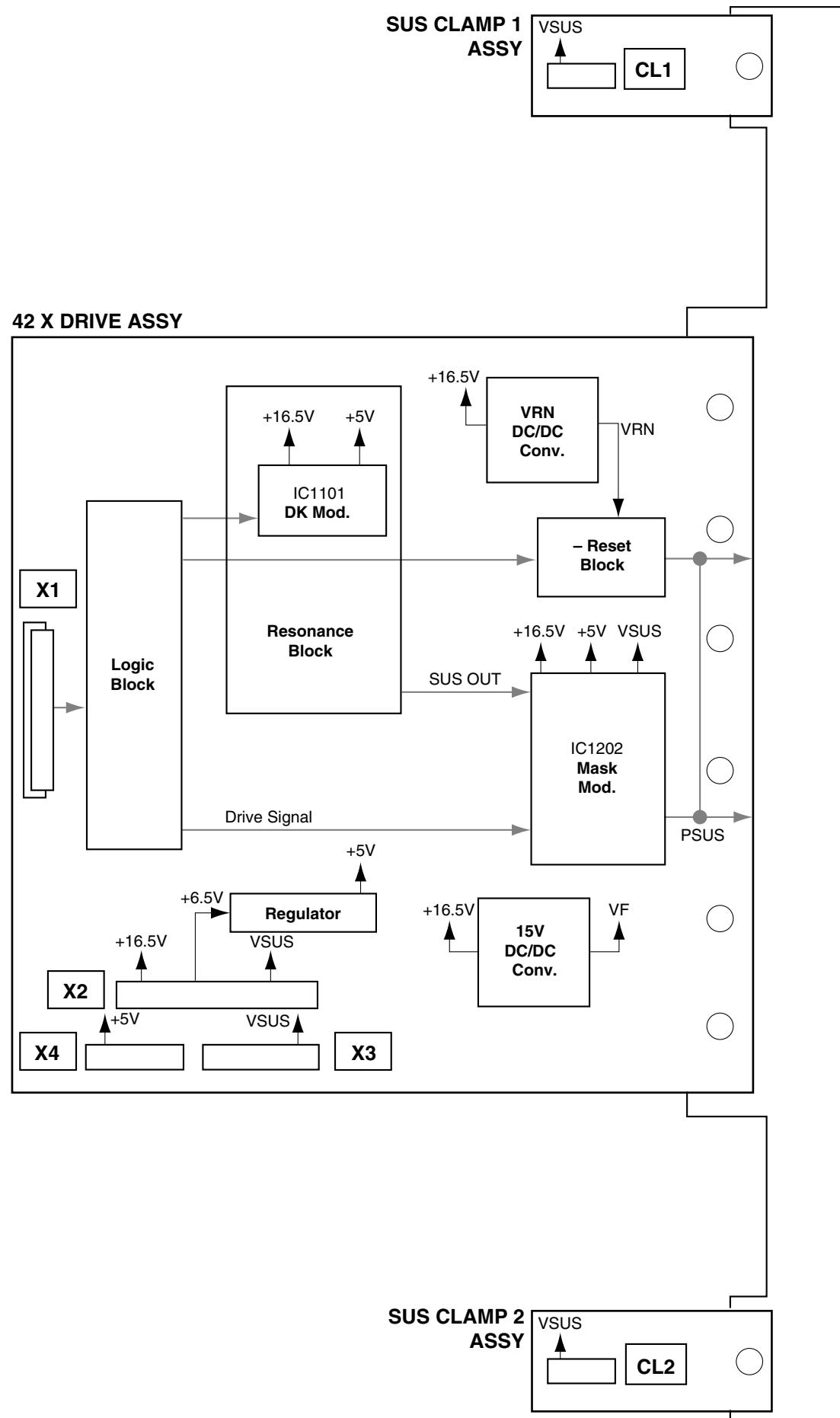
E

F

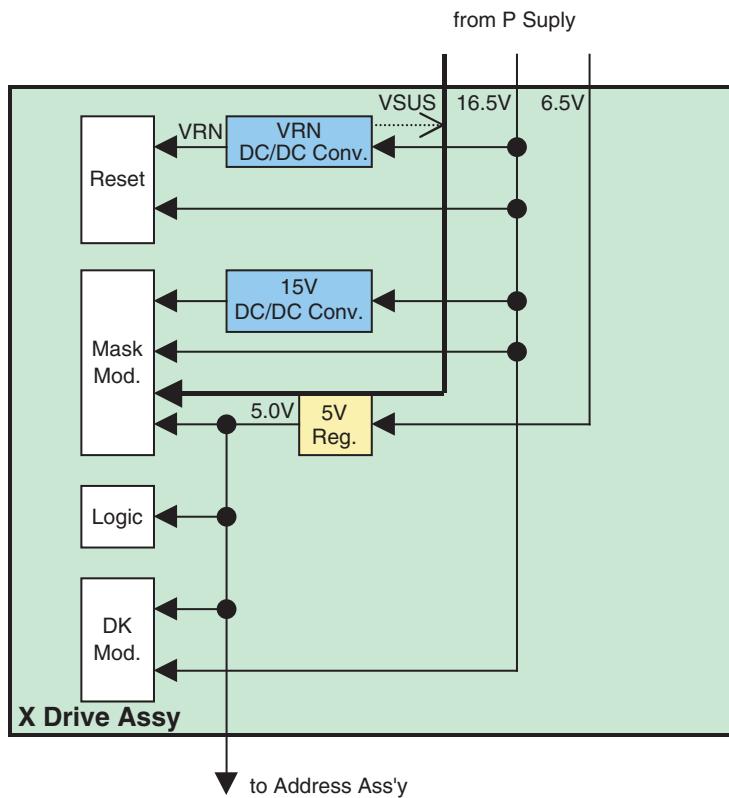
### 3.6 42 SCAN A and B ASSYS (PDP-4216HD)



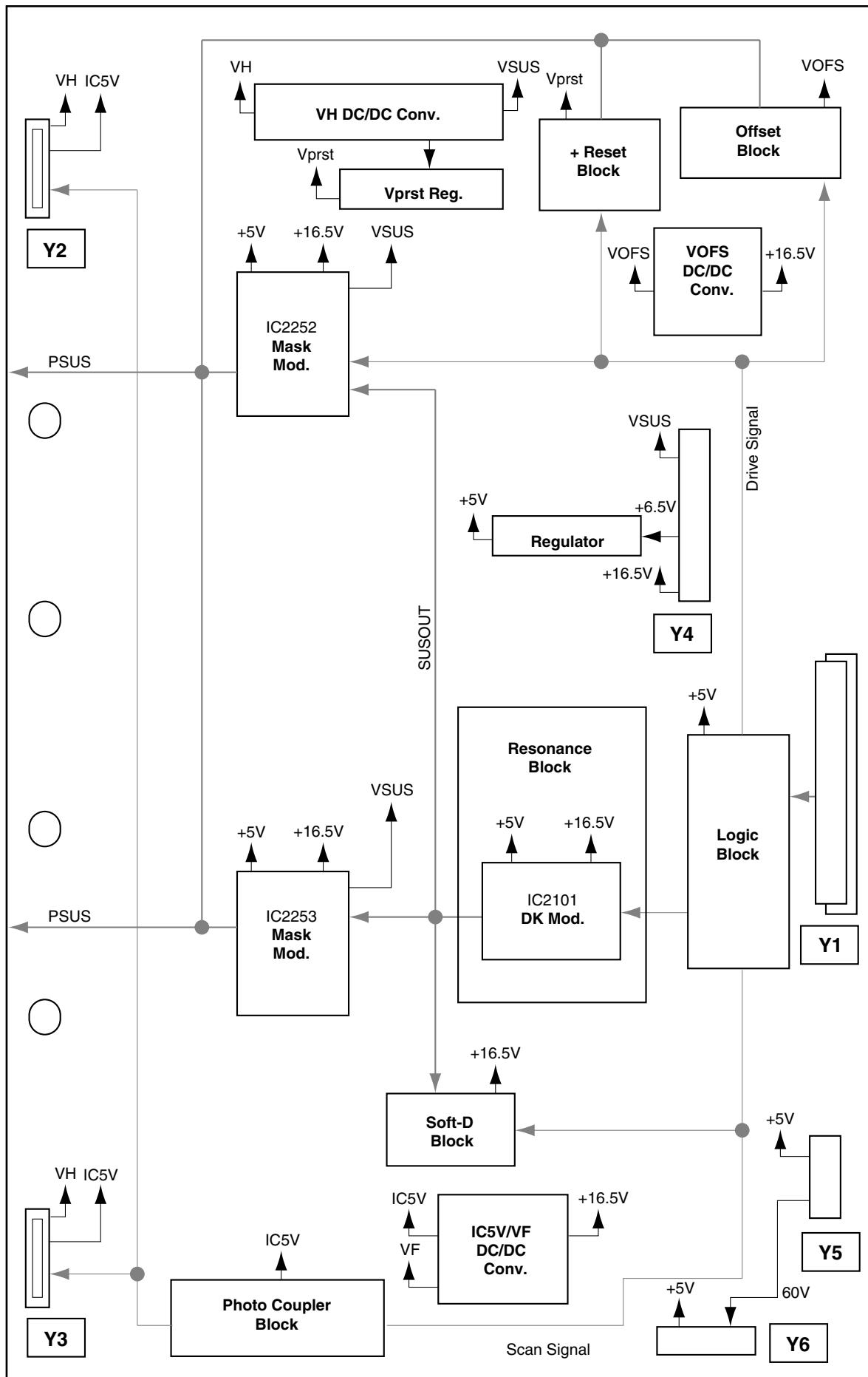
■ 1 ■ 2 ■ 3 ■ 4  
**3.7 42 X DRIVE, SUS CLAMP 1 and SUS CLAMP 2 ASSYS (PDP-4216HD)**



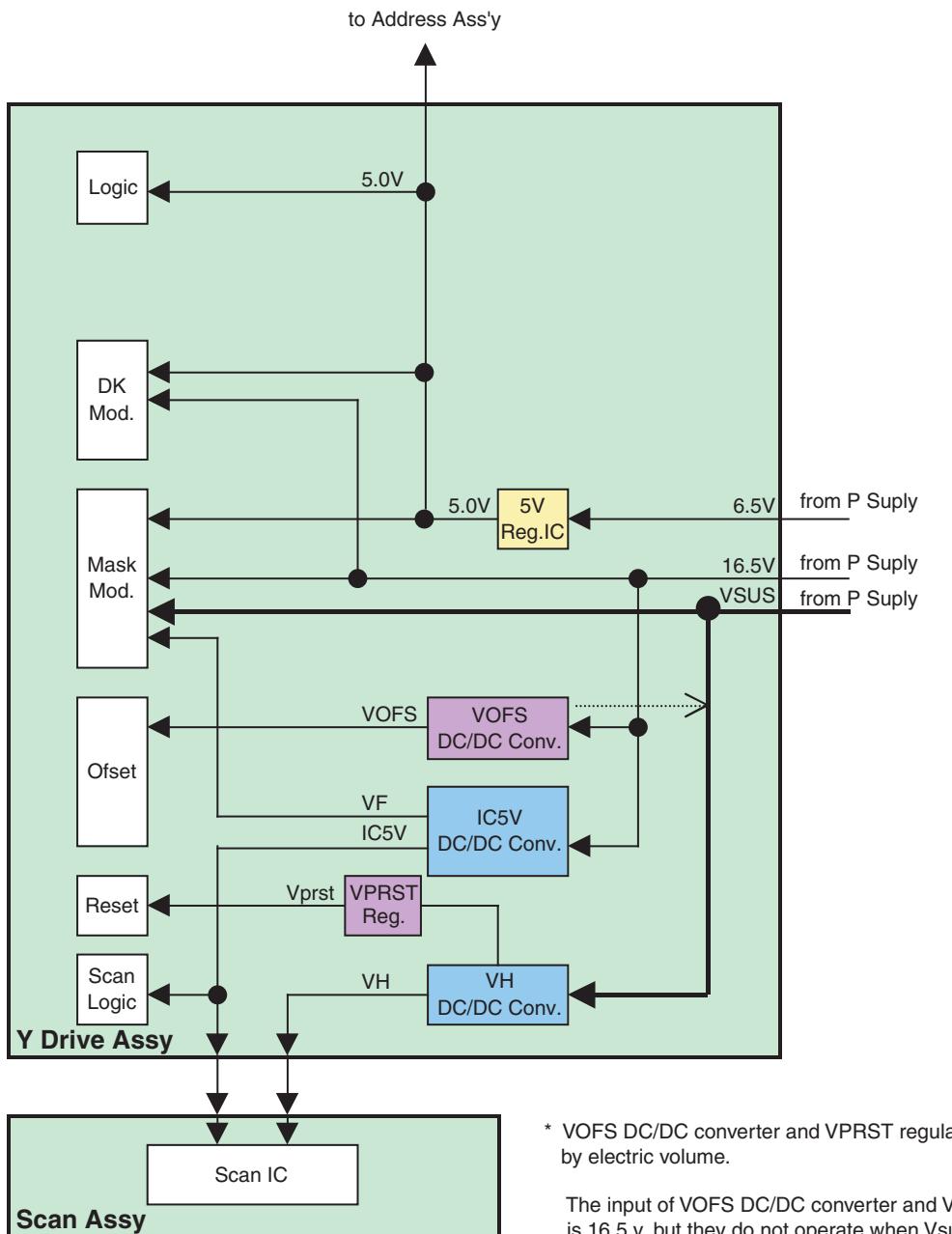
- X Drive power supply map



### 3.8 42 Y DRIVE ASSY (PDP-4216HD)



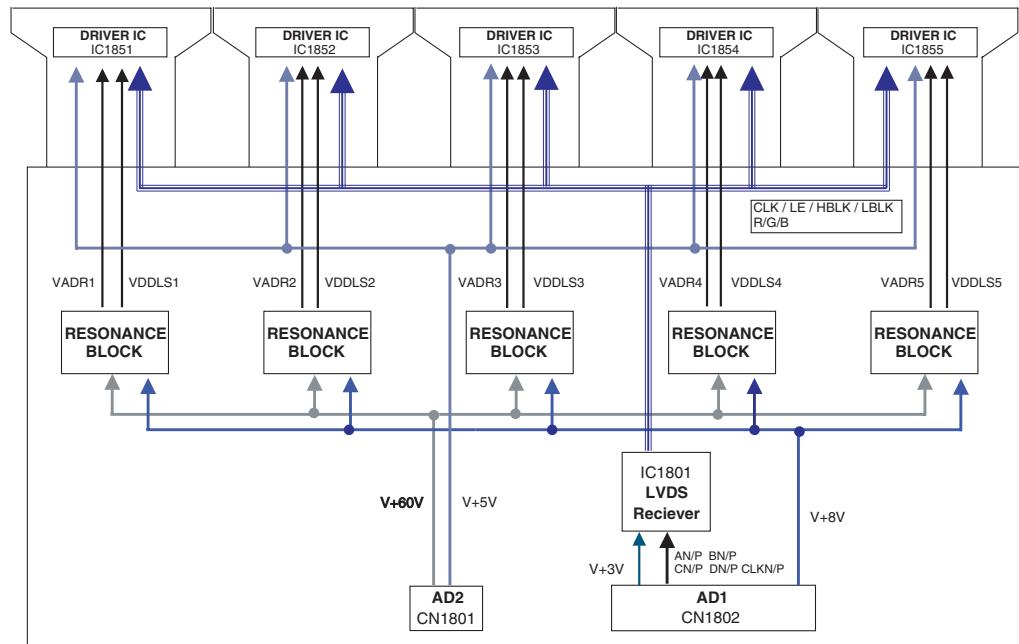
• Y Drive power supply map



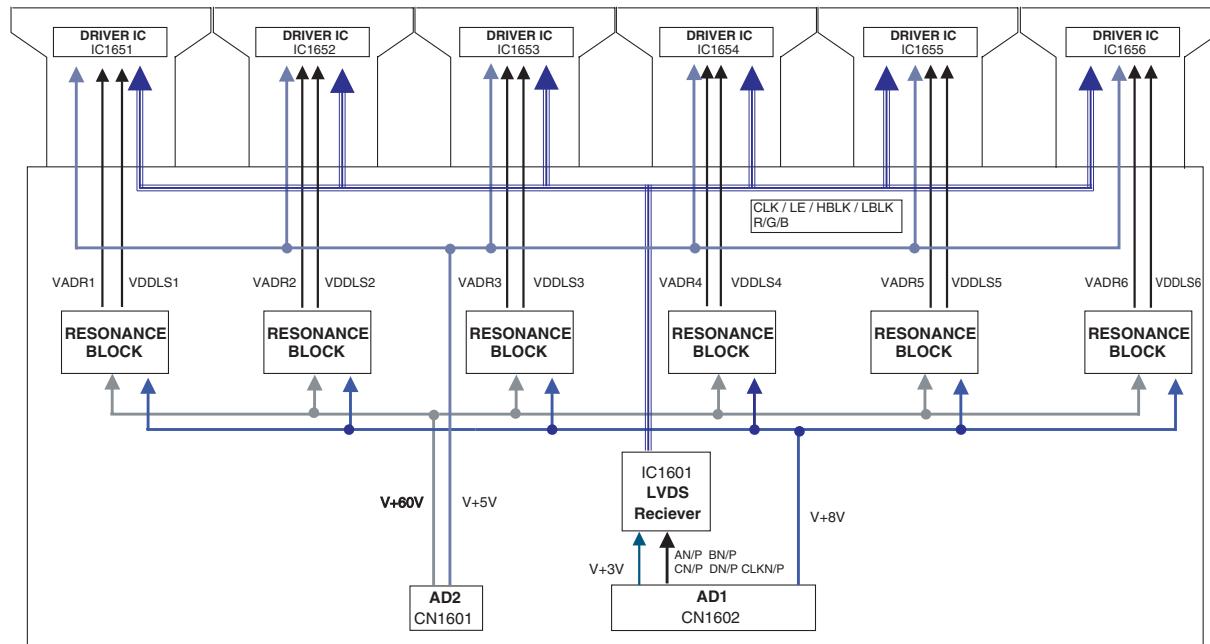
1 2 3 4  
**3.9 50 ADDRESS S and L ASSYS (PDP-5016HD)**

A

**50 ADDRESS S ASS'Y**

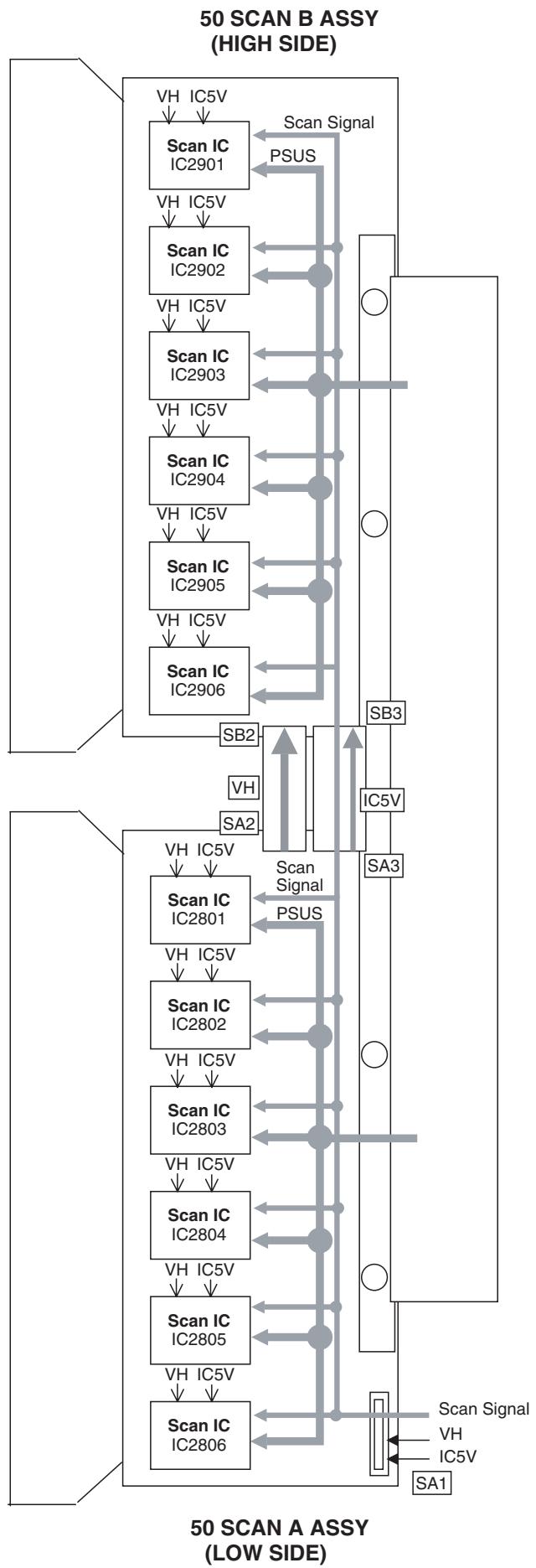


**50 ADDRESS L ASS'Y**

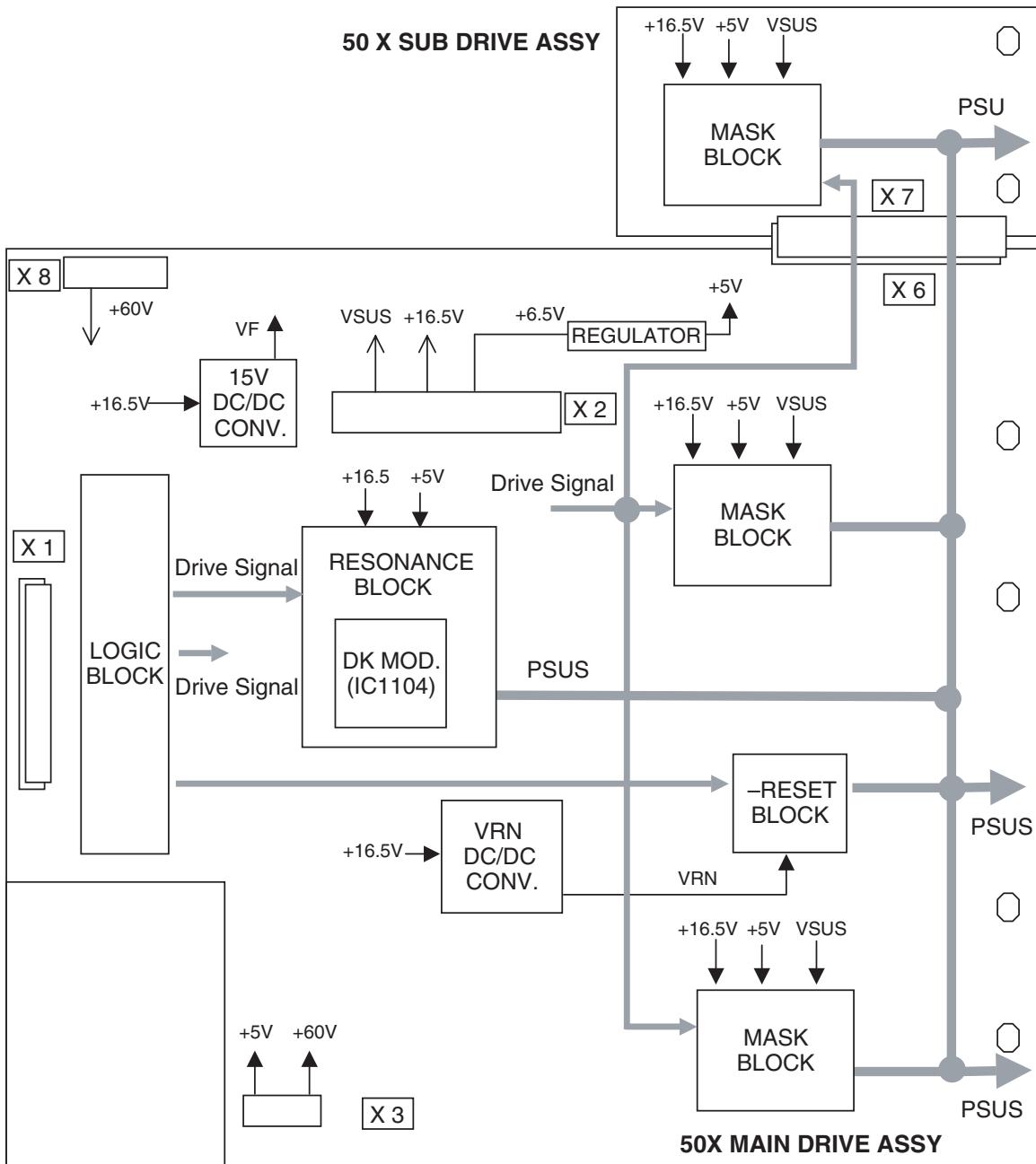


F

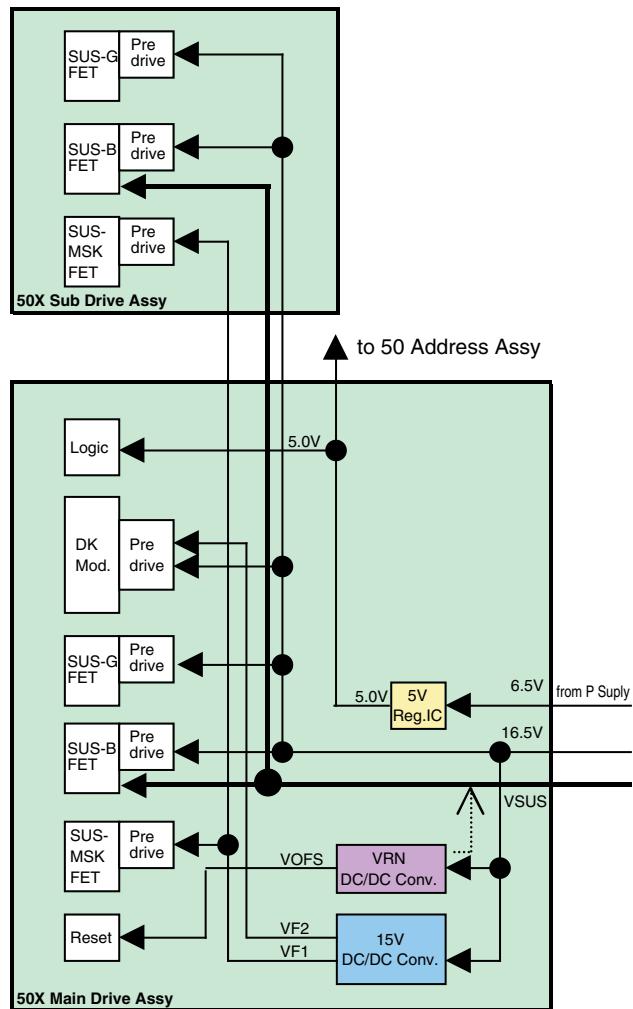
### 3.10 50 SCAN A and B ASSYS (PDP-5016HD)



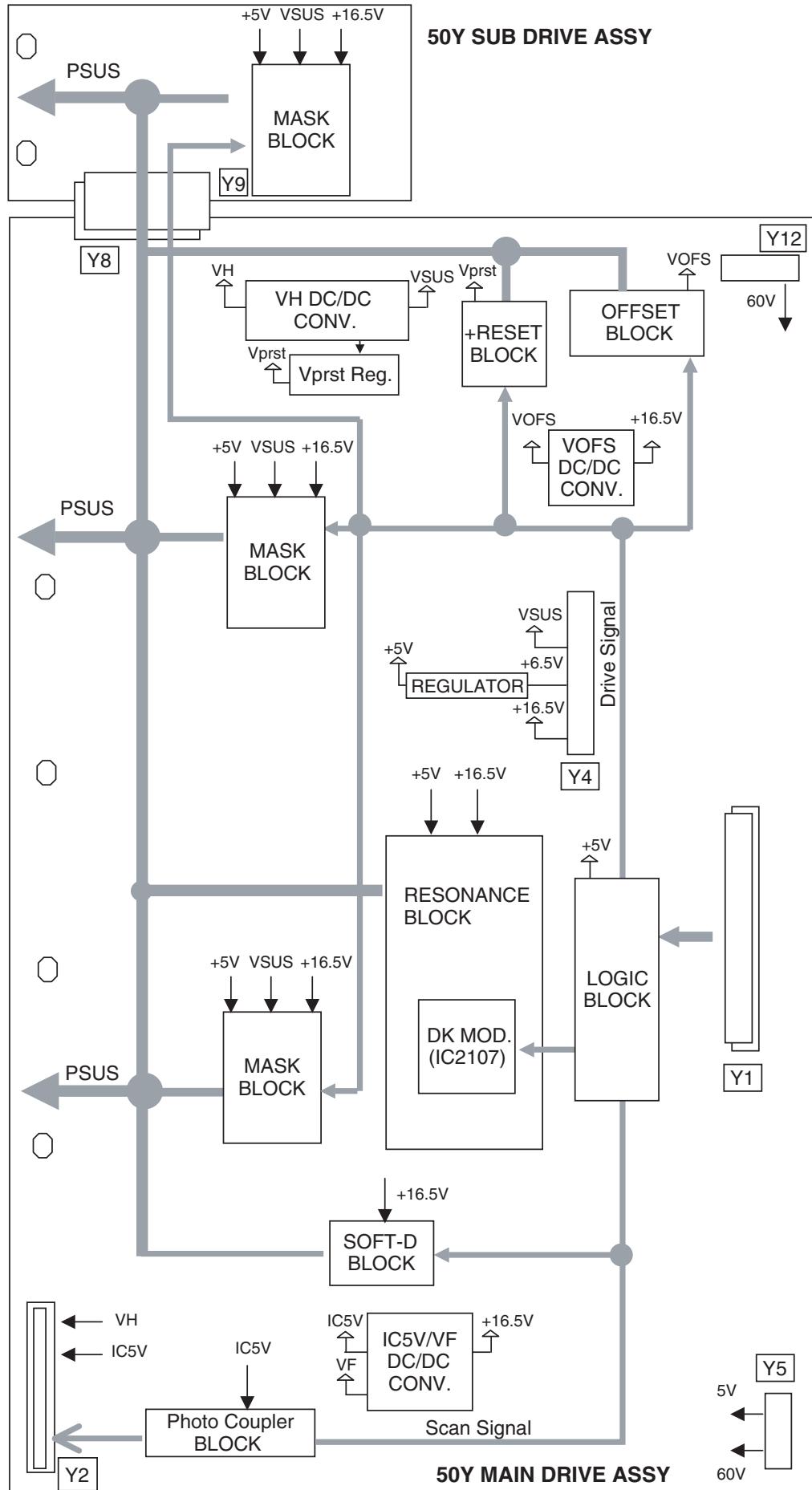
1 2 3 4  
**3.11 50X MAIN DRIVE and 50X SUB DRIVE ASSYS (PDP-5016HD)**



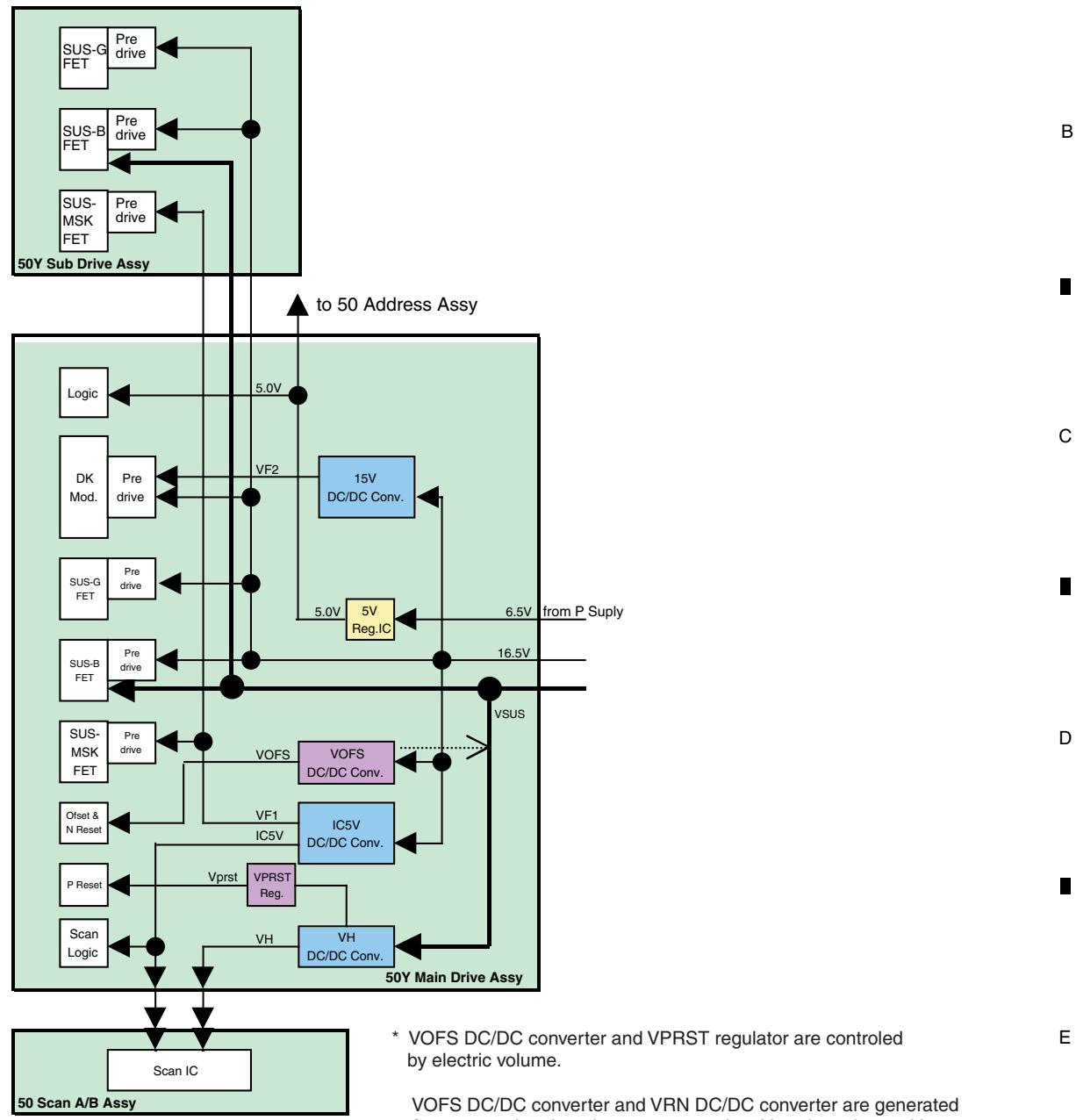
• 50 X Drive power supply map



1 2 3 4  
**3.12 50Y MAIN DRIVE and 50Y SUB DRIVE ASSYS (PDP-5016HD)**

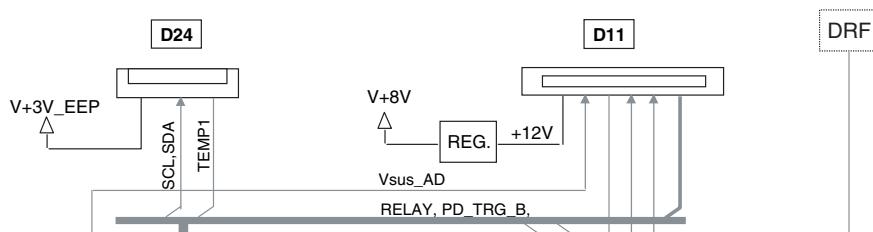


- 50 Y Drive power supply map

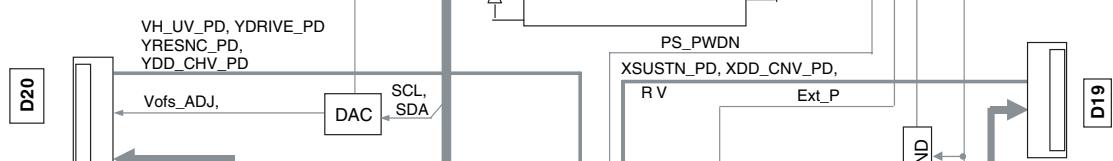


### 3.13 42 DIGITAL ASSY (PDP-4216HD)

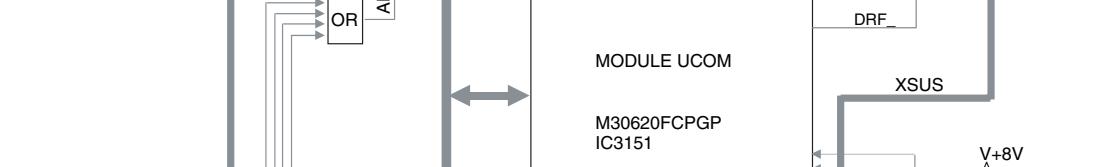
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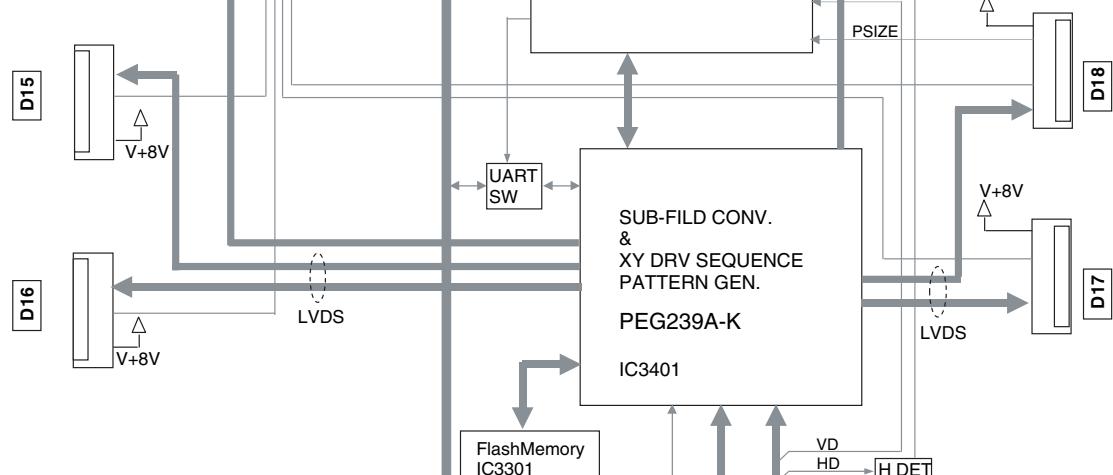
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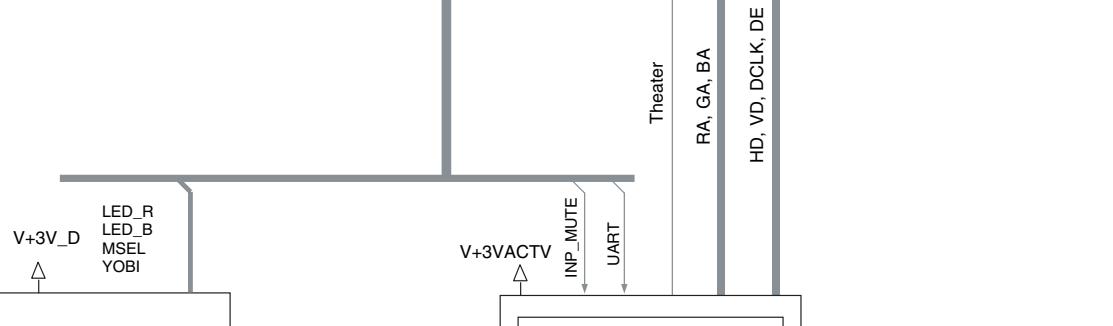
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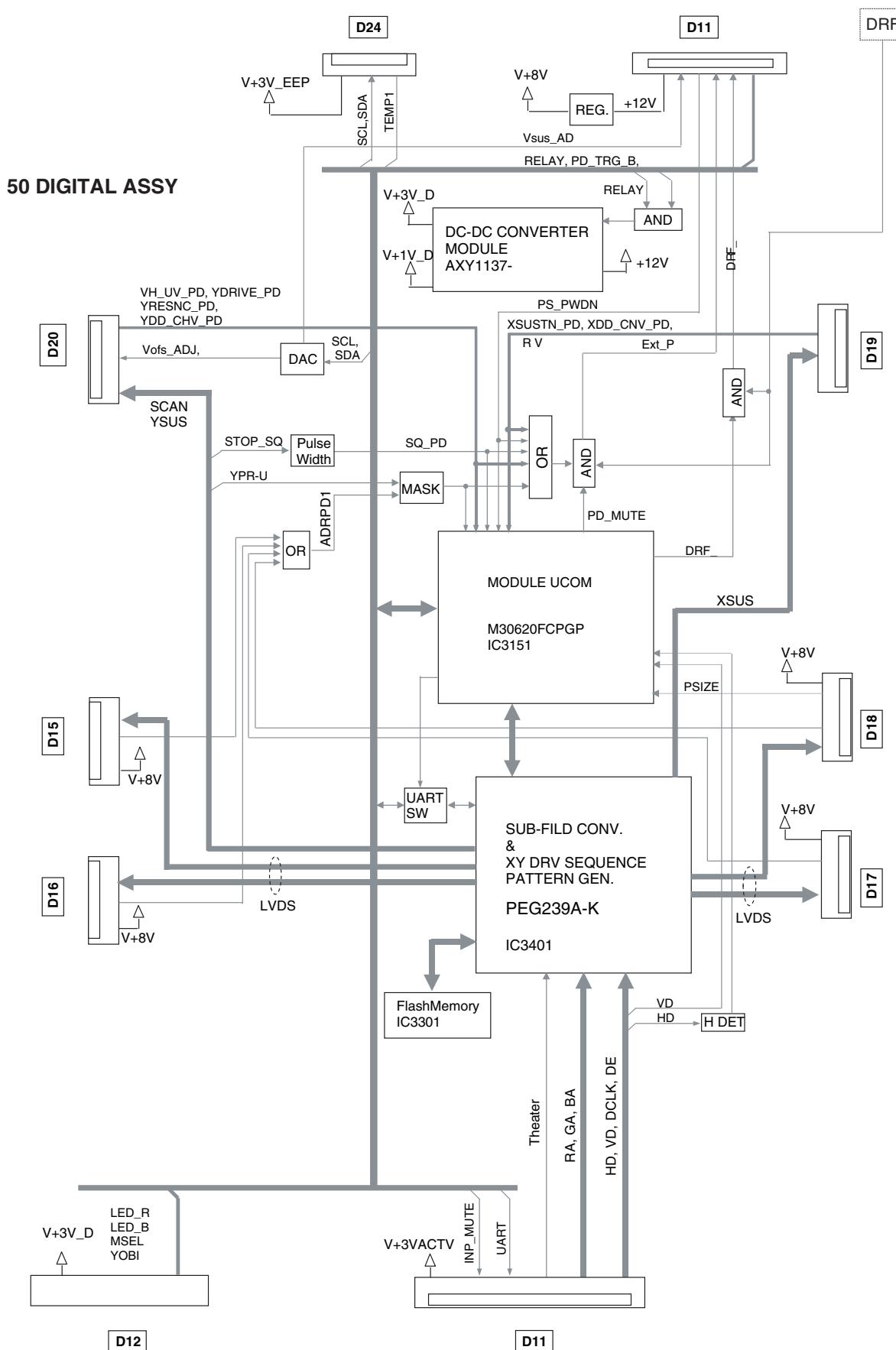
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### 3.14 50 DIGITAL ASSY (PDP-5016HD)



# 3.15 INTERFACE ASSY

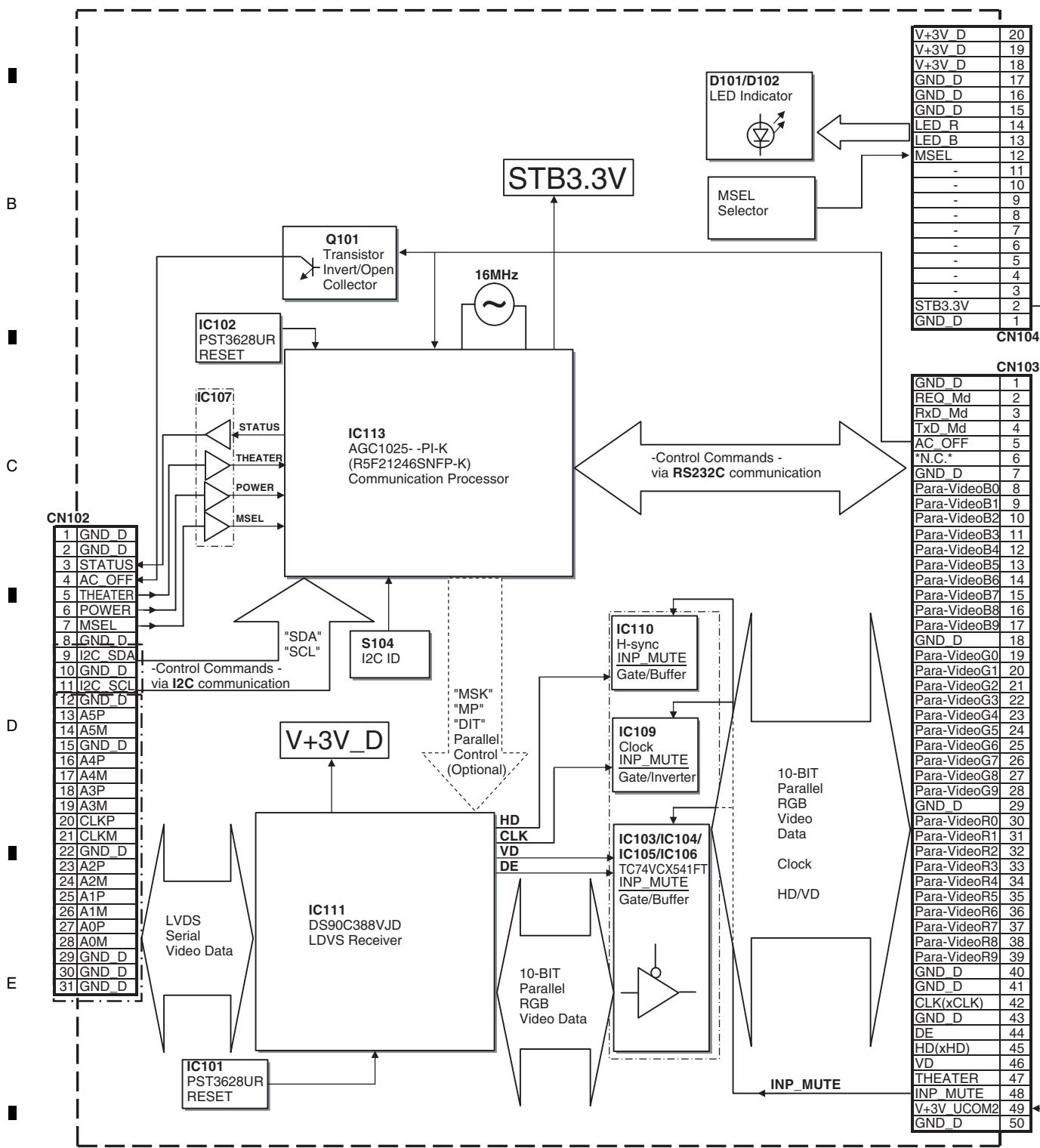
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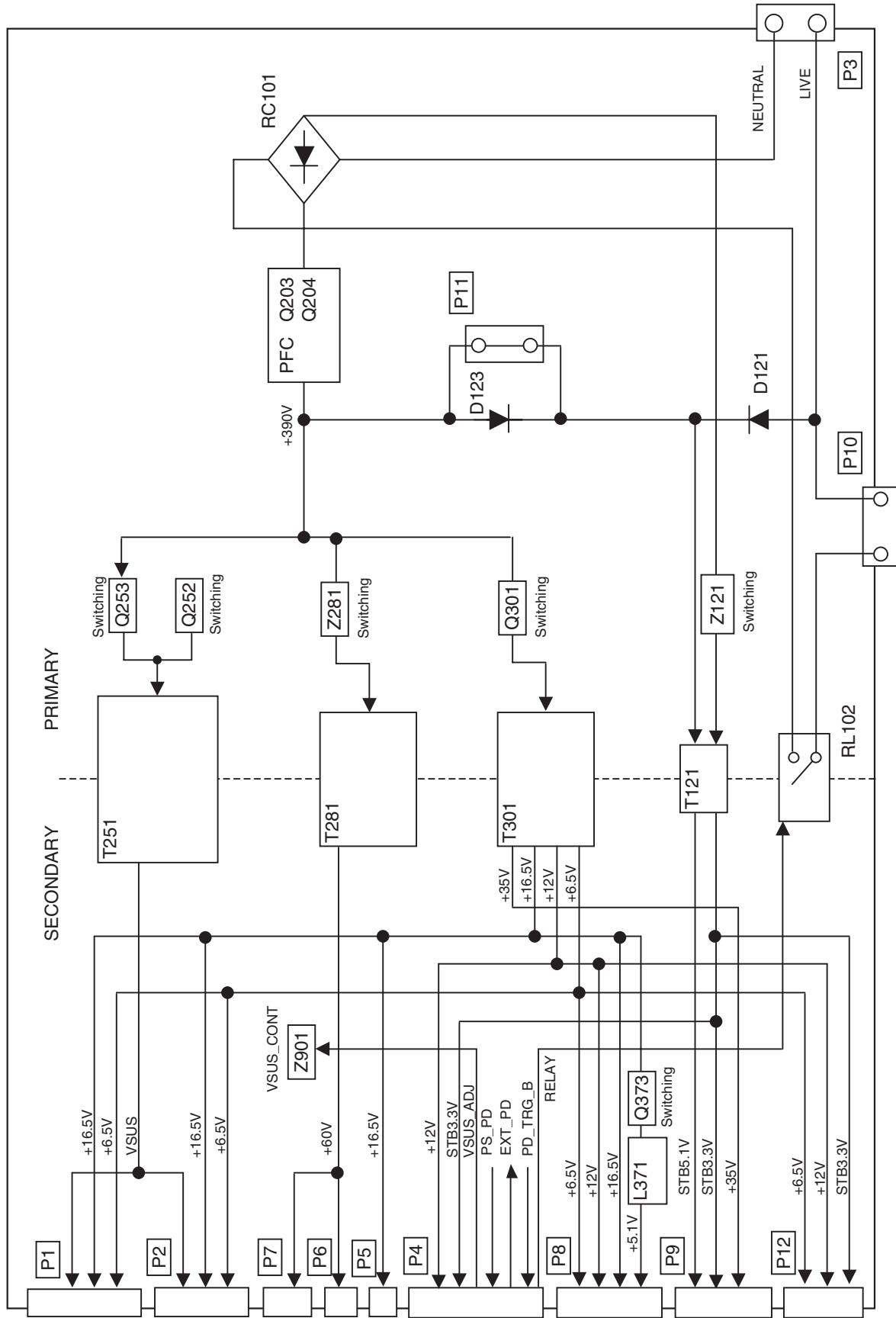
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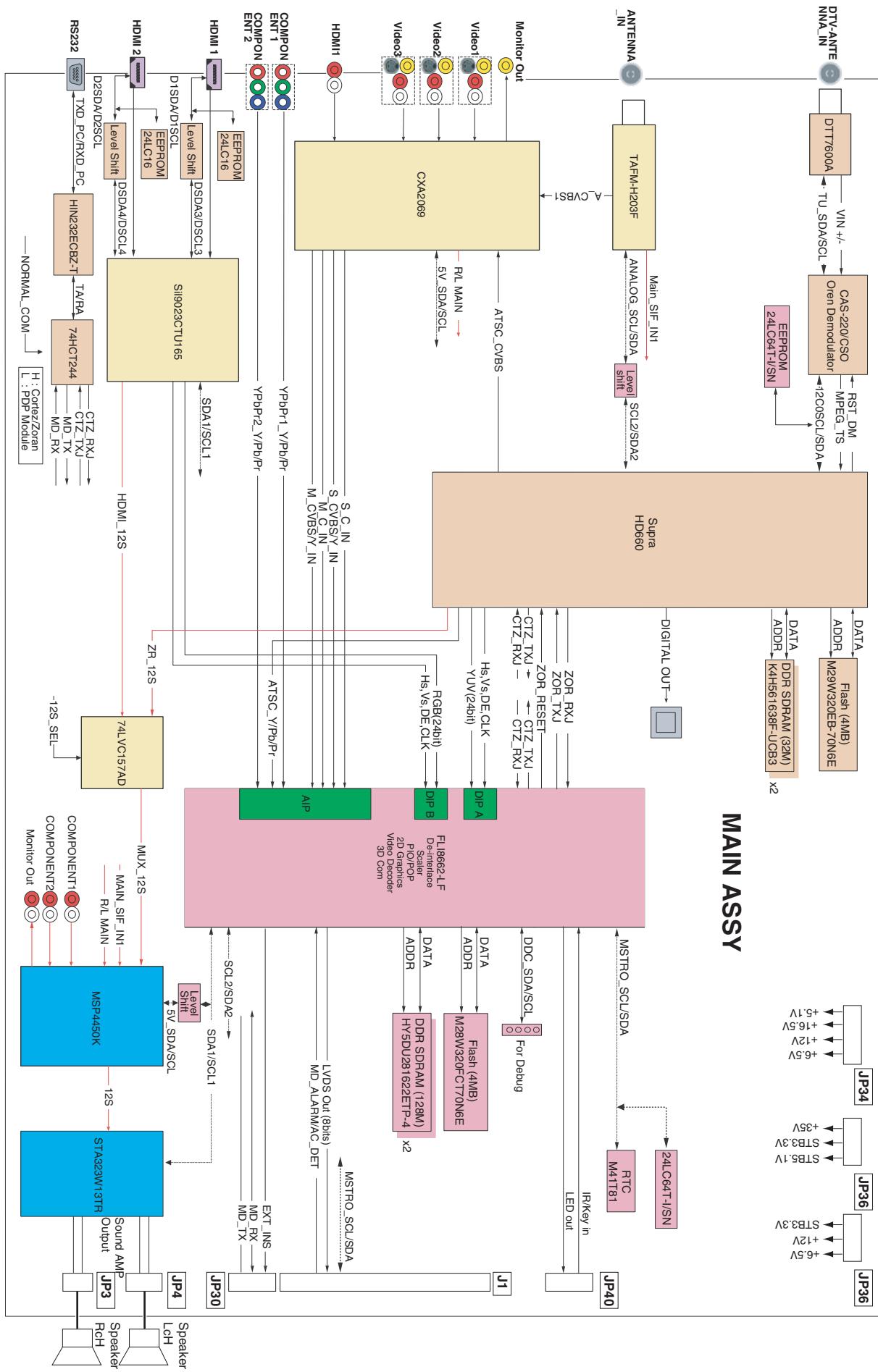
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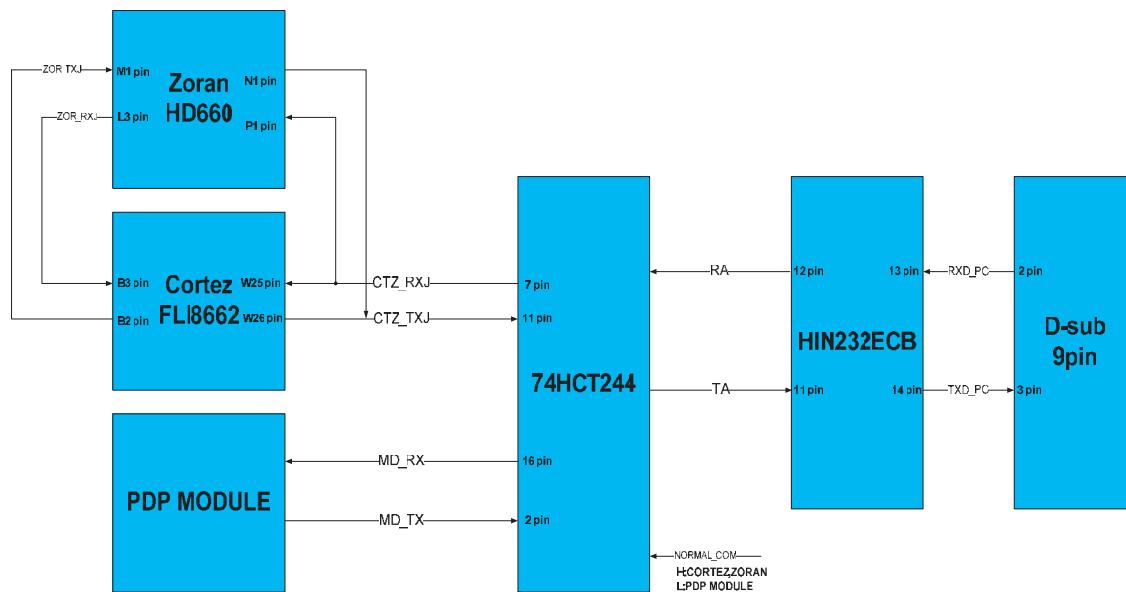
### 3.16 POWER SUPPLY ASSY



### 3.17 MAIN ASSY



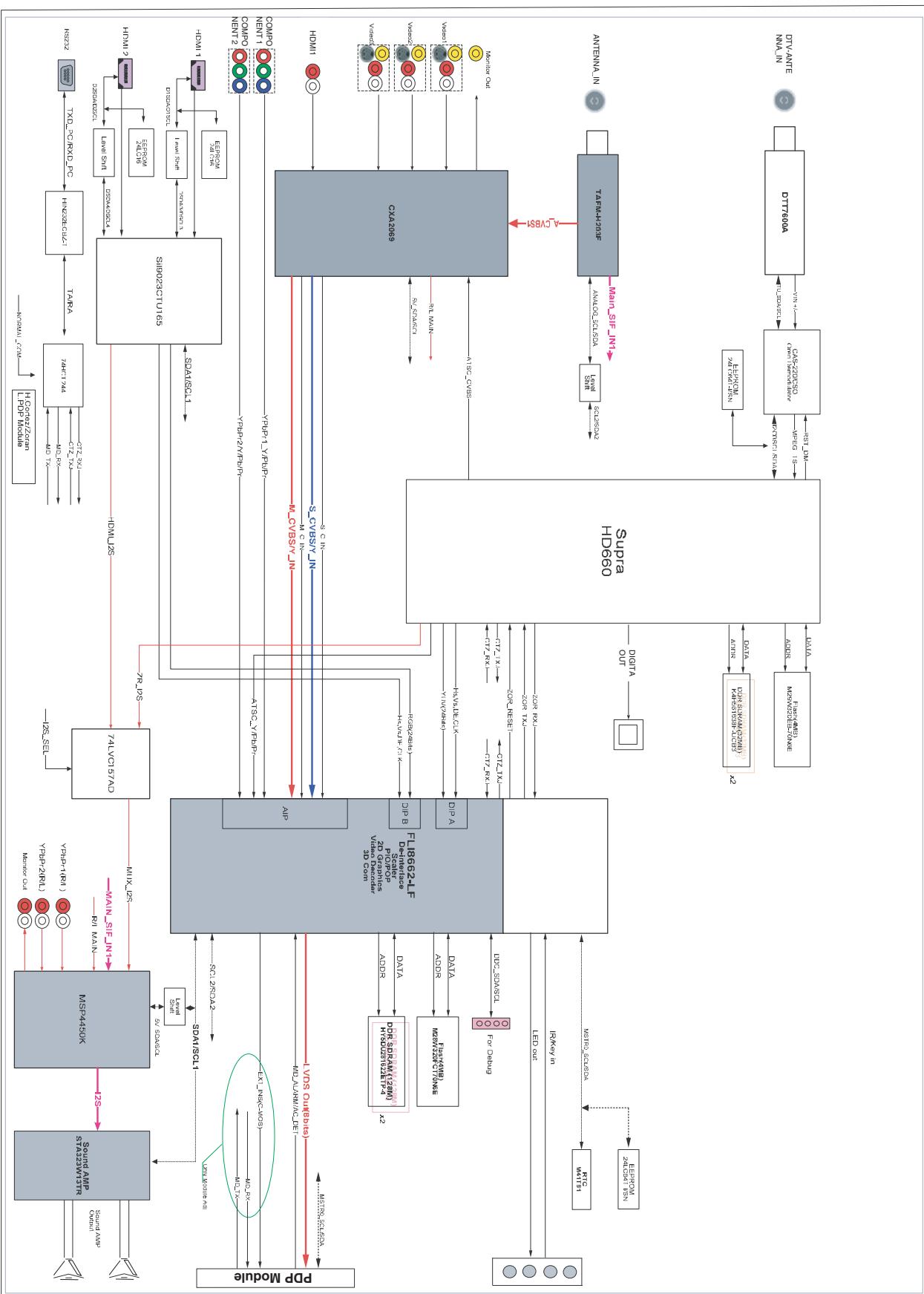
### 3.17.1 UART BLOCK



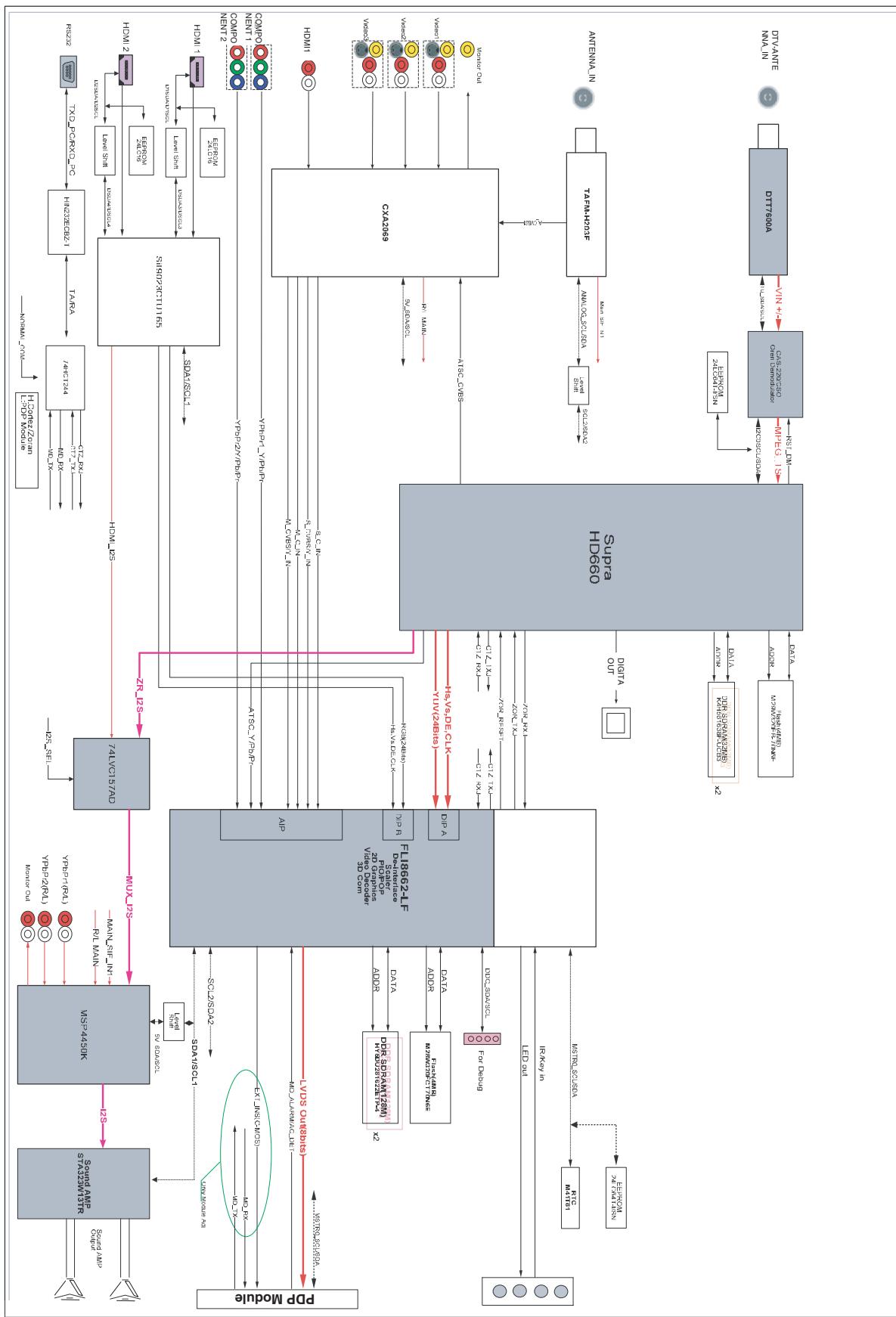
#### • PIP Combinations

	DIGITAL CH (ATSC)	ANALOG CH (ATSC)	HDMI 1 HDMI 2	COMPONENT 1 COMPONENT 2	VIDEO 1 VIDEO 2 VIDEO 3
DIGITAL CH (ATSC)	X	O	O	O	O
ANALOG CH (NTSC)	O	X	O	O	O
HDMI 1 HDMI 2	O	O	X	X	X
COMPONENT 1 COMPONENT 2	O	O	X	X	X
VIDEO 1 VIDEO 2 VIDEO 3	O	O	X	X	X

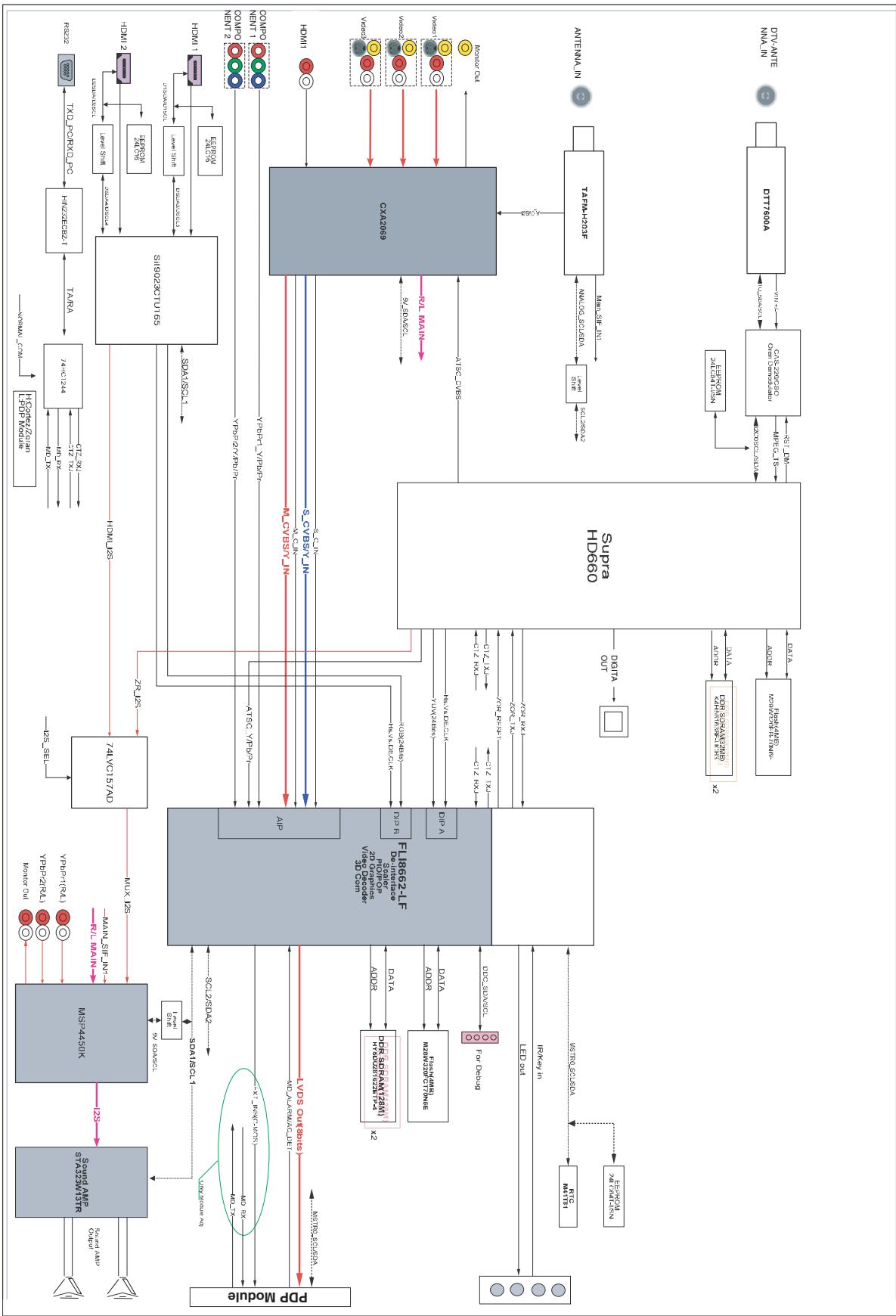
## 3.17.2 SIGNAL FLOW (ATV)



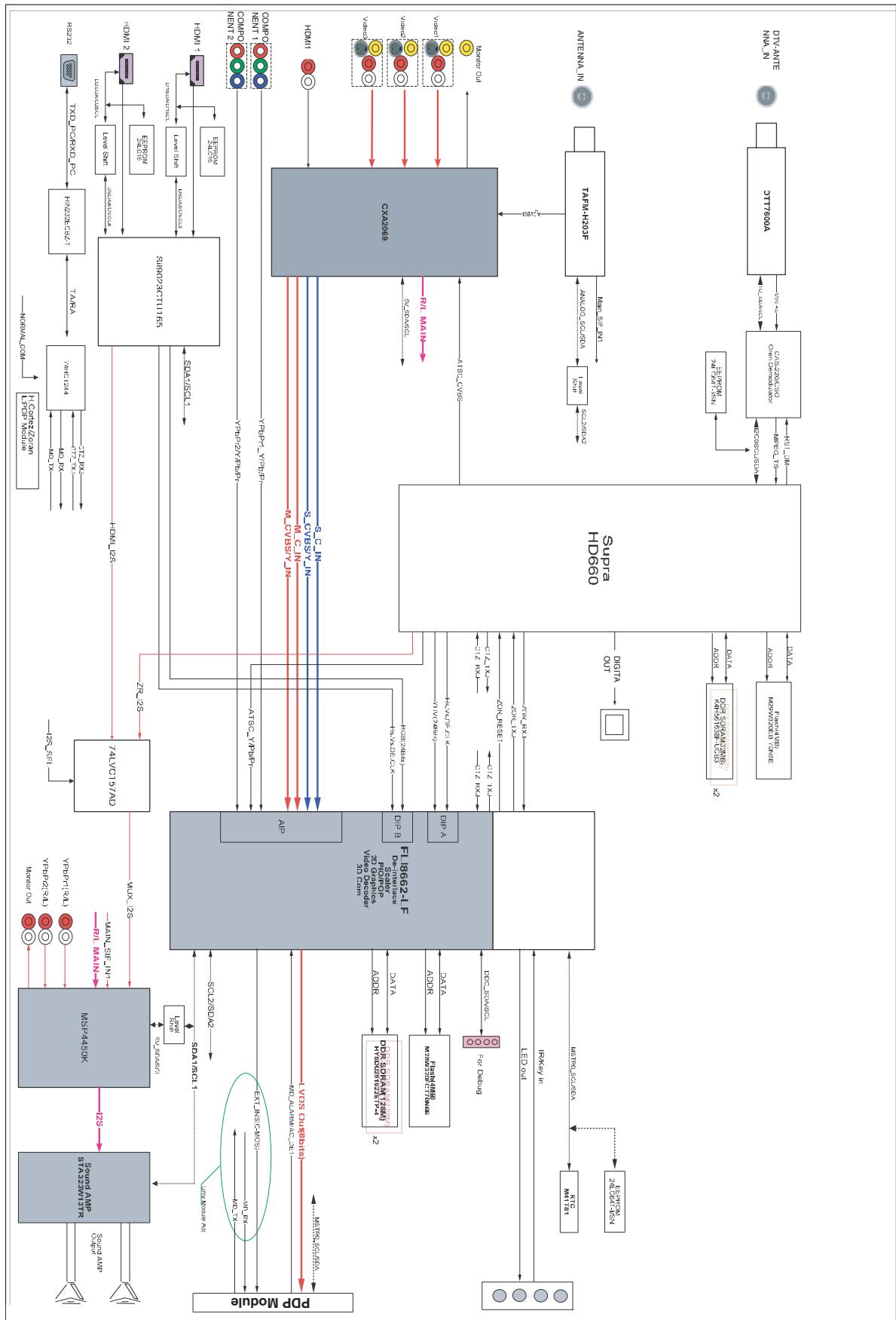
### 3.17.3 SIGNAL FLOW (DTV)



### 3.17.4 SIGNAL FLOW ( VIDEO )



### 3.17.5 SIGNAL FLOW (S-VIDEO)



A

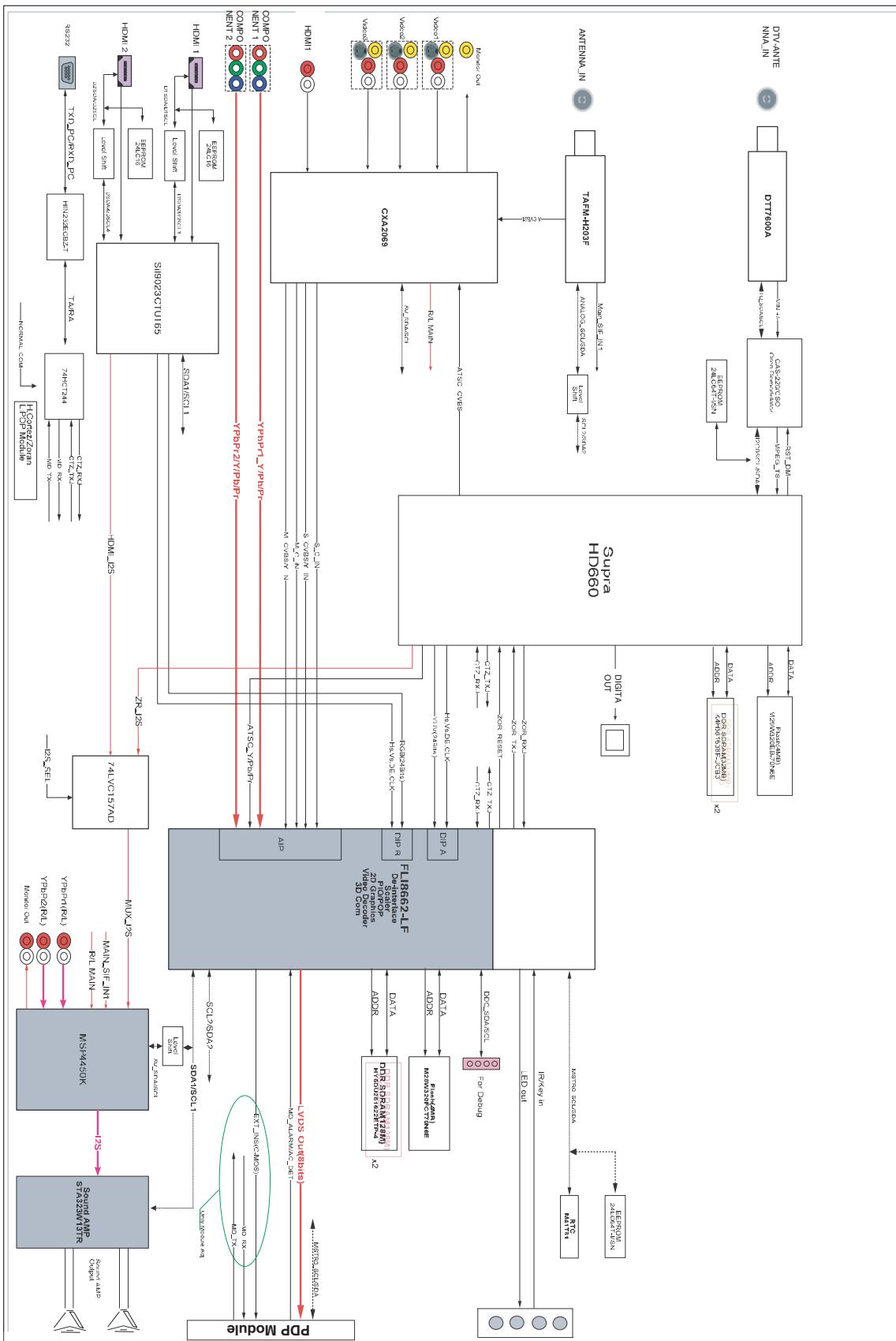
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C

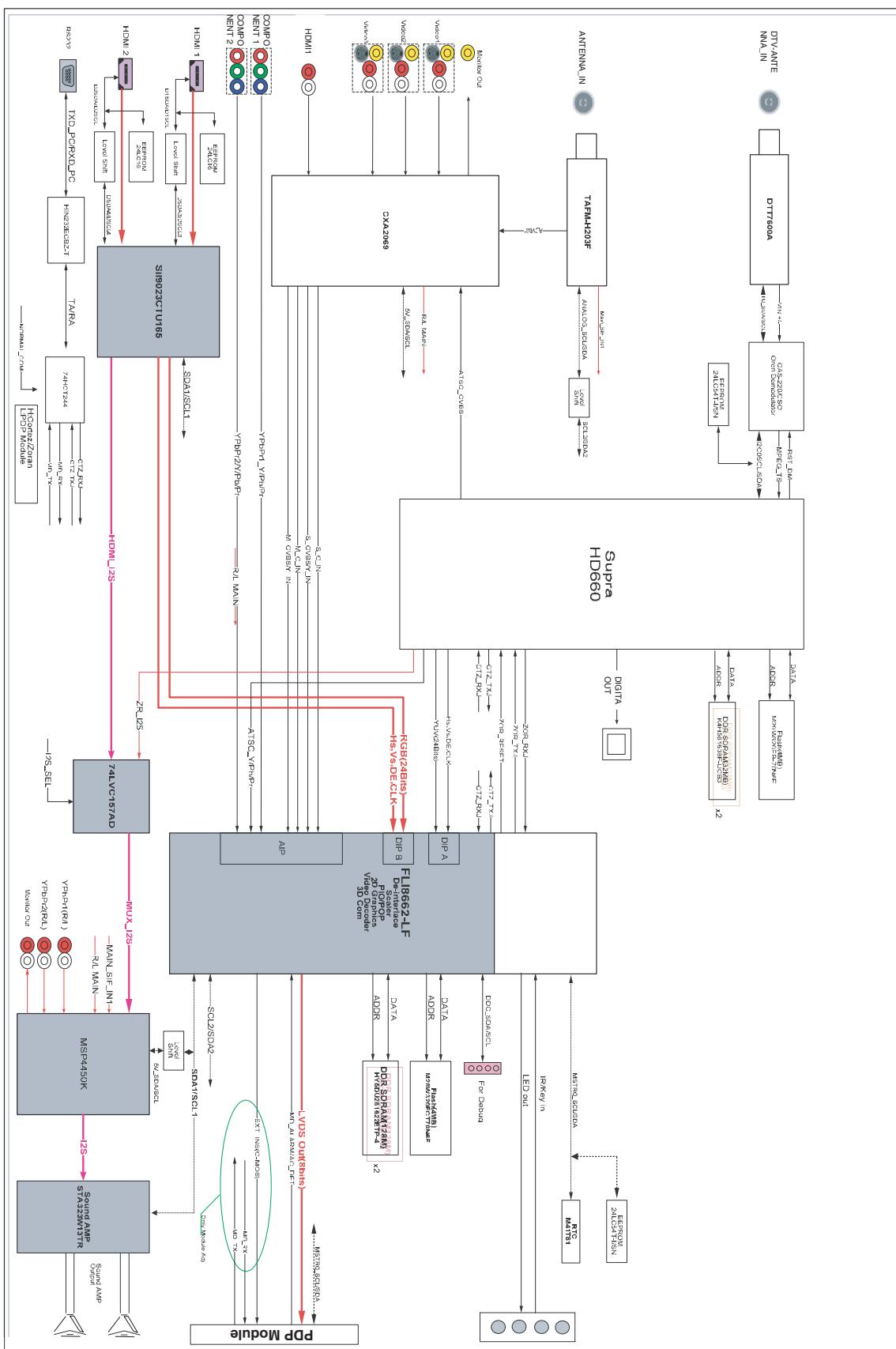
D

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### 3.17.7 SIGNAL FLOW (HDMI)



# 3.18 VOLTAGES

## 3.18.1 PDP-4216HD VOLTAGES

### A ■ 42 DIGITAL ASSY

**CN3505 (D19) ↔ 42 X DRIVE ASSY CN1001 (X1)**

Pin No.	Pin Name	I/O	Function	Voltage (V)	TP
1	PSW	O	Function standby control signal	0	TP3519
2	XSUS_PD	I	X drive PD signal	0	TP3513
3	XDD_PD	I	X drive PD signal	0	TP3514
4	XDRV_PD	I	X drive PD signal	0	TP3515
5	GND	-	GND	-	-
6	XRsv1	I	X drive control signal (reserve)	-	-
7	XSUS-MSK	I	X drive control signal	0 to 3.3	-
8	GND	-	GND	-	-
9	XNR-D	O	X drive control signal	0 to 3.3	-
10	GND	-	GND	-	-
11	XSUS-G	O	X drive control signal	0 to 3.3	-
12	GND	-	GND	-	-
13	XSUS-D	O	X drive control signal	0 to 3.3	-
14	GND	-	GND	-	-
15	XSUS-U	O	X drive control signal	0 to 3.3	-
16	GND	-	GND	-	-
17	XSUS-B	O	X drive control signal	0 to 3.3	-
18	GND	-	GND	-	-

**CN3506 (D20) ↔ 42 Y DRIVE ASSY CN2001 (Y1)**

Pin No.	Pin Name	I/O	Function	Voltage (V)	TP
1	GND	-	GND	-	-
2	SCN5V_PD	I	Y drive PD signal	0	TP3507
3	SI_L	O	Scan control signal	0 to 3.3	-
4	SI_H	O	Scan control signal	0 to 3.3	-
5	GND	-	GND	-	-
6	CLR	O	Scan control signal	0 to 3.3	-
7	CLK	O	Scan control signal	0 to 3.3	-
8	GND	-	GND	-	-
9	LE	O	Scan control signal	0 to 3.3	-
10	OC2	O	Scan control signal	0 to 3.3	-
11	OC1 (-1)	O	Scan control signal	0 to 3.3	-
12	GND	-	GND	-	-
13	YSUS-B	O	Y drive control signal	0 to 3.3	-
14	YSUS-U	O	Y drive control signal	0 to 3.3	-
15	GND	-	GND	-	-
16	YSUS-D	O	Y drive control signal	0 to 3.3	-
17	YSUS-G	O	Y drive control signal	0 to 3.3	-
18	GND	-	GND	-	-
19	YPR-U	O	Y drive control signal	0 to 3.3	-
20	YRsv1	-	Y drive control signal (reserve)	-	-
21	GND	-	GND	-	-
22	YSUS-MSK	O	Y drive control signal	0 to 3.3	-
23	YNRST	O	Y drive control signal	0 to 3.3	-
24	YRsv2	-	Y drive control signal (reserve)	-	-
25	GND	-	GND	-	-
26	YENOFS	O	Y drive control signal	0 to 3.3	-
27	YRsv3	O	Y drive control signal (reserve)	-	-
28	YSOFT-D	O	Y drive control signal	0 to 3.3	-
29	GND	-	GND	-	-
30	VOFS_ADJ	-	Vofs offset adjustment	1.85	TP3181
31	VYPRST_ADJ	O	Reset voltage adjustment	1.21	TP3182
32	GND	-	GND	-	-
33	GND	-	GND	-	-
34	N.C	-	Non connection	-	-
35	GND	-	GND	-	-
36	YDD_PD	I	Y drive PD signal	0	TP3509
37	YSUS_PD	I	Y drive PD signal	0	TP3510
38	SCAN_PD	I	Y drive PD signal	0	TP3511
39	YDRV_PD	I	Y drive PD signal	0	TP3512
40	PSW	O	Function standby control signal	0	TP3518

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## ■ 42 DIGITAL ASSY

**CN3501 (D15) ↔ 42 ADDRESS ASSY CN1501 (AD1)**

Pin No.	Pin Name	I/O	Function	Voltage (V)	TP
1	N.C	-	Non connection	-	-
2	ADR_PD	I	Address PD signal	0 to 4	TP3501
3	N.C	-	Non connection	-	-
4	GND	-	GND	-	-
5	V+8V	O	+8 V power supply	8	TP3618
6	V+8V	O	+8 V power supply	8	TP3618
7	GND	-	GND	-	-
8	GND	-	GND	-	-
9	N.C	-	Non connection	-	-
10	TA-	O	LVDS data	1 to 1.4	-
11	TA+	O	LVDS data	1 to 1.4	-
12	N.C	-	Non connection	-	-
13	GND	-	GND	-	-
14	N.C	-	Non connection	-	-
15	TB-	O	LVDS data	1 to 1.4	-
16	TB+	O	LVDS data	1 to 1.4	-
17	N.C	-	Non connection	-	-
18	GND	-	GND	-	-
19	N.C	-	Non connection	-	-
20	TC-	O	LVDS data	1 to 1.4	-
21	TC+	O	LVDS data	1 to 1.4	-
22	N.C	-	Non connection	-	-
23	GND	-	GND	-	-
24	N.C	-	Non connection	-	-
25	TCLK-	O	LVDS data	1 to 1.4	-
26	TCLK+	O	LVDS data	1 to 1.4	-
27	N.C	-	Non connection	-	-
28	GND	-	GND	-	-
29	N.C	-	Non connection	-	-
30	TD-	O	LVDS data	1 to 1.4	-
31	TD+	O	LVDS data	1 to 1.4	-
32	N.C	-	Non connection	-	-
33	GND	-	GND	-	-
34	GND	-	GND	-	-
35	V+3V_D	O	+3 V power supply	3.3	TP3607
36	V+3V_D	O	+3 V power supply	3.3	TP3607
37	GND	-	GND	-	-
38	ADRS_3	O	Output timing control	0	-
39	ADRS_2	O	Output timing control	0	-
40	GND	-	GND	-	-

**CN3502 (D16) ↔ 42 ADDRESS ASSY CN1501 (AD1)**

Pin No.	Pin Name	I/O	Function	Voltage (V)	TP
1	N.C	-	Non connection	-	-
2	ADR_PD	I	Address PD signal	0 to 4	TP3502
3	N.C	-	Non connection	-	-
4	GND	-	GND	-	-
5	V+8V	O	+8 V power supply	8	TP3618
6	V+8V	O	+8 V power supply	8	TP3618
7	GND	-	GND	-	-
8	GND	-	GND	-	-
9	N.C	-	Non connection	-	-
10	TA-	O	LVDS data	1 to 1.4	-
11	TA+	O	LVDS data	1 to 1.4	-
12	N.C	-	Non connection	-	-
13	GND	-	GND	-	-
14	N.C	-	Non connection	-	-
15	TB-	O	LVDS data	1 to 1.4	-
16	TB+	O	LVDS data	1 to 1.4	-
17	N.C	-	Non connection	-	-
18	GND	-	GND	-	-
19	N.C	-	Non connection	-	-
20	TC-	O	LVDS data	1 to 1.4	-
21	TC+	O	LVDS data	1 to 1.4	-
22	N.C	-	Non connection	-	-
23	GND	-	GND	-	-
24	N.C	-	Non connection	-	-
25	TCLK-	O	LVDS data	1 to 1.4	-
26	TCLK+	O	LVDS data	1 to 1.4	-
27	N.C	-	Non connection	-	-
28	GND	-	GND	-	-
29	N.C	-	Non connection	-	-
30	TD-	O	LVDS data	1 to 1.4	-
31	TD+	O	LVDS data	1 to 1.4	-
32	N.C	-	Non connection	-	-
33	GND	-	GND	-	-
34	GND	-	GND	-	-
35	V+3V_D	O	+3 V power supply	3.3	TP3607
36	V+3V_D	O	+3 V power supply	3.3	TP3607
37	GND	-	GND	-	-
38	ADRS_3	O	Output timing control	0	-
39	ADRS_2	O	Output timing control	0	-
40	GND	-	GND	-	-

## ■ 42 DIGITAL ASSY

A

CN3503 (D17) ↔ 42 ADDRESS ASSY CN1501 (AD1)

Pin No.	Pin Name	I/O	Function	Voltage (V)	TP
1	N.C	—	Non connection	—	—
2	ADR_PD	I	Address PD signal	0 to 4	TP3503
3	N.C	—	Non connection	—	—
4	GND	—	GND	—	—
5	V+8V	O	+8 V power supply	8	TP3618
6	V+8V	O	+8 V power supply	8	TP3618
7	GND	—	GND	—	—
8	GND	—	GND	—	—
9	N.C	—	Non connection	—	—
10	TA-	O	LVDS data	1 to 1.4	—
11	TA+	O	LVDS data	1 to 1.4	—
12	N.C	—	Non connection	—	—
13	GND	—	GND	—	—
14	N.C	—	Non connection	—	—
15	TB-	O	LVDS data	1 to 1.4	—
16	TB+	O	LVDS data	1 to 1.4	—
17	N.C	—	Non connection	—	—
18	GND	—	GND	—	—
19	N.C	—	Non connection	—	—
20	TC-	O	LVDS data	1 to 1.4	—
21	TC+	O	LVDS data	1 to 1.4	—
22	N.C	—	Non connection	—	—
23	GND	—	GND	—	—
24	N.C	—	Non connection	—	—
25	TCLK-	O	LVDS data	1 to 1.4	—
26	TCLK+	O	LVDS data	1 to 1.4	—
27	N.C	—	Non connection	—	—
28	GND	—	GND	—	—
29	N.C	—	Non connection	—	—
30	TD-	O	LVDS data	1 to 1.4	—
31	TD+	O	LVDS data	1 to 1.4	—
32	N.C	—	Non connection	—	—
33	GND	—	GND	—	—
34	GND	—	GND	—	—
35	V+3V_D	O	+3 V power supply	3.3	TP3607
36	V+3V_D	O	+3 V power supply	3.3	TP3607
37	GND	—	GND	—	—
38	ADRS_3	O	Output timing control	0	—
39	ADRS_2	O	Output timing control	0	—
40	GND	—	GND	—	—

B

CN3504 (D18) ↔ 42 ADDRESS ASSY CN1501 (AD1)

Pin No.	Pin Name	I/O	Function	Voltage (V)	TP
1	N.C	—	Non connection	—	—
2	ADR_PD	I	Address PD signal	0 to 4	TP3504
3	PSIZE	I	Panel size judge signal	3.3	—
4	GND	—	GND	—	—
5	V+8V	O	+8 V power supply	8	TP3618
6	V+8V	O	+8 V power supply	8	TP3618
7	GND	—	GND	—	—
8	GND	—	GND	—	—
9	N.C	—	Non connection	—	—
10	TA-	O	LVDS data	1 to 1.4	—
11	TA+	O	LVDS data	1 to 1.4	—
12	N.C	—	Non connection	—	—
13	GND	—	GND	—	—
14	N.C	—	Non connection	—	—
15	TB-	O	LVDS data	1 to 1.4	—
16	TB+	O	LVDS data	1 to 1.4	—
17	N.C	—	Non connection	—	—
18	GND	—	GND	—	—
19	N.C	—	Non connection	—	—
20	TC-	O	LVDS data	1 to 1.4	—
21	TC+	O	LVDS data	1 to 1.4	—
22	N.C	—	Non connection	—	—
23	GND	—	GND	—	—
24	N.C	—	Non connection	—	—
25	TCLK-	O	LVDS data	1 to 1.4	—
26	TCLK+	O	LVDS data	1 to 1.4	—
27	N.C	—	Non connection	—	—
28	GND	—	GND	—	—
29	N.C	—	Non connection	—	—
30	TD-	O	LVDS data	1 to 1.4	—
31	TD+	O	LVDS data	1 to 1.4	—
32	N.C	—	Non connection	—	—
33	GND	—	GND	—	—
34	GND	—	GND	—	—
35	V+3V_D	O	+3 V power supply	3.3	TP3607
36	V+3V_D	O	+3 V power supply	3.3	TP3607
37	GND	—	GND	—	—
38	ADRS_3	O	Output timing control	0	—
39	ADRS_2	O	Output timing control	0	—
40	GND	—	GND	—	—

D

CN3601 (D21) ↔ POWER SUPPLY UNIT (P4)

Pin No.	Pin Name	I/O	Function	Voltage (V)	TP
1	V+12V	I	+12 V power supply input	12	—
2	V+12V	I	+12 V power supply input	12	—
3	GND	—	GND	—	—
4	GND	—	GND	—	—
5	V+3.3V_STB	I	STB3.3 V power supply input	0 to 3.3	—
6	GND	—	GND	—	—
7	M_SW_DET	I	Mechanism switch detection signal input	0 to 3.3	—
8	EXT_PD	O	Power down signal	0 to 3.3	—
9	VSUS_ADJ	O	VSUS power supply adjustment signal	0 to 3.3	—
10	PS_PD	I	Power supply PD signal	0 to 3.3	—
11	RELAY	O	Relay control	0 to 3.3	—
12	DRF_B	O	Large power supply ON/OFF control signal	0 to 3.3	—
13	AC_DET	I	AC power supply state input	0 to 3.3	—
14	PD_TRG_B	I	Power down trigger signal	0 to 3.3	—

E

## 3.18.2 PDP-5016HD VOLTAGES

### [Voltage of the Drive Connector]

#### 50Y MAIN DRIVE ASSY

Y4 CN2204(B9B-EH)		Voltage (V)	P1 (B9B-EH)	
No.	Name		No.	Name
1	VSUS	205	1	VSUS
2	VSUS	205	2	VSUS
3	NC	-	3	NC
4	GND_SUS	0	4	GND_SUS
5	GND_SUS	0	5	GND_SUS
6	GND	0	6	GND
7	V+6.5V	5	7	V+6.5V
8	V+16.5V	16.5	8	V+16.5V
9	NC	-	9	NC

#### POWER SUPPLY UNIT

#### 50Y MAIN DRIVE ASSY

Y2 CN2601(AKM1200-)		Voltage (V)	SA1 CN2801(AKM1261- -TFB)	
No.	Name		No.	Name
1	V H	GNDH+130	1	V H
2	V H	GNDH+130	2	V H
3	NC	-	3	NC
4	NC	-	4	NC
5	GNDH	-60 to 350	5	GNDH
6	SI_L	-60 to 350	6	SI_L
7	SI_H	-60 to 350	7	SI_H
8	CLR	-60 to 350	8	CLR
9	OC2	-60 to 350	9	OC2
10	OC1	-60 to 350	10	OC1
11	CLK	-60 to 350	11	CLK
12	LE	-60 to 350	12	LE
13	GNDH	-60 to 350	13	GNDH
14	GNDH_R	-60 to 350	14	GNDH_R
15	IC5V	-60 to 350	15	IC5V

#### 50 SCAN A ASSY

#### 50Y MAIN DRIVE ASSY

Y12 CN2206(KM200NA5)		Voltage (V)	P7 (B6B-PH-K-S)	
No.	Name		No.	Name
1	VADR	60	1	VADR
2	VADR	60	2	VADR
3	NC	-	3	NC
4	GND_ADR	0	4	GND_ADR
5	GND_ADR	0	5	GND_ADR
			6	NC

#### POWER SUPPLY UNIT

#### 50Y SUB DRIVE ASSY

Y9 CN2701(14R-FJ)		Voltage (V)	Y8 CN2202(14PL-FJ)	
No.	Name		No.	Name
1	MSK-G	-60 to 205	1	MSK-G
2	MSK-S	-60 to 205	2	MSK-S
3	NC	-	3	NC
4	GND_SUS	0	4	GND_SUS
5	SUS_G	0	5	SUS_G
6	GND_CN	0	6	GND_CN
7	NC	-	7	NC
8	SUSOUT	0 to 205	8	SUSOUT
9	SUS_B	0 to 205	9	SUS_B
10	SUSOUT	0 to 205	10	SUSOUT
11	SUSOUT+15V	0 to 205	11	SUSOUT+15V
12	NC	-	12	NC
13	VSUS	205	13	VSUS
14	VSUS	205	14	VSUS

#### 50Y MAIN DRIVE ASSY

#### 50X MAIN DRIVE ASSY

X2 CN1204(B8B-EH)		Voltage (V)	P2 (B8B-EH)	
No.	Name		No.	Name
1	VSUS	205	1	VSUS
2	VSUS	205	2	VSUS
3	NC	-	3	NC
4	GND_SUS	0	4	GND_SUS
5	GND_SUS	0	5	GND_SUS
6	GND	0	6	GND
7	V+6.5V	5	7	V+6.5V
8	V+16.5V	16.5	8	V+16.5V

#### POWER SUPPLY UNIT

#### 50X MAIN DRIVE ASSY

X8 CN1205(KM200NA5)		Voltage (V)	P6 (B5B-PH-K-S)	
No.	Name		No.	Name
1	VADR	60	1	VADR
2	VADR	60	2	VADR
3	NC	-	3	NC
4	GND_ADR	0	4	GND_ADR
5	GND_ADR	0	5	GND_ADR

#### POWER SUPPLY UNIT

#### 50X MAIN DRIVE ASSY

X6 CN1201(14PL-FJ)		Voltage (V)	X7 CN1501(14R-FJ)	
No.	Name		No.	Name
1	MSK	-180 to 205	1	MSK
2	PSUS	-180 to 205	2	PSUS
3	NC	-	3	NC
4	GND_SUS	0	4	GND_SUS
5	SUS_G	0	5	SUS_G
6	GND_CN	0	6	GND_CN
7	NC	-	7	NC
8	SUSOUT	0 to 205	8	SUSOUT
9	SUS_B	0 to 205	9	SUS_B
10	SUSOUT	0 to 205	10	SUSOUT
11	SUSOUT+15V	0 to 205	11	SUSOUT+15V
12	NC	-	12	NC
13	VSUS	205	13	VSUS
14	VSUS	205	14	VSUS

#### 50X SUB DRIVE ASSY

Y5 CN2205(KM200NA8)		Voltage (V)	AD1 CN1601(AKM1290- -TBB)	
No.	Name		No.	Name
1	VADR	60	1	VADR
2	VADR	60	2	GND_ADR
3	GND_ADR	0	3	V+5.1V
4	GND_ADR	0	4	GND
5	V+5.1V	5	5	V+5.1V
6	V+5.1V	5	6	V+5.1V
7	GND	0	7	GND
8	GND	0	8	GND

#### 50 ADDRESS L ASSY

AD1 CN1801(AKM1290- -TBB)		Voltage (V)	AD1 CN1601(AKM1290- -TBB)	
No.	Name		No.	Name
1	VADR	60	1	VADR
2	GND_ADR	0	2	GND_ADR
3	GND_ADR	0	3	V+5.1V
4	GND	0	4	GND

#### 50 ADDRESS S ASSY

X3 CN1202(KM200NA8)		Voltage (V)	AD1 CN1801(AKM1290- -TBB)	
No.	Name		No.	Name
1	VADR	60	1	VADR
2	VADR	60	2	GND_ADR
3	GND_ADR	0	3	V+5.1V
4	GND_ADR	0	4	GND
5	V+5.1V	5	5	V+5.1V
6	V+5.1V	5	6	V+5.1V
7	GND	0	7	GND
8	GND	0	8	GND

#### 50 ADDRESS L ASSY

## ■ 50 DIGITAL ASSY

A CN3601 (D21) ↔ POWER SUPPLY UNIT (P4)

Pin No.	Pin Name	I/O	Function	Voltage (V)	TP
1	V+12V	I	+12 V power supply input	12	—
2	V+12V	I	+12 V power supply input	12	—
3	GND	—	GND	—	—
4	GND	—	GND	—	—
5	V+3.3V_STB	I	STB3.3 V power supply input	0 to 3.3	—
6	GND	—	GND	—	—
7	M_SW_DET	I	Mechanism switch detection signal input	0 to 3.3	—
8	EXT_PD	O	Power down signal	0 to 3.3	—
9	VSUS_ADJ	O	VSUS power supply adjustment signal	0 to 3.3	—
10	PS_PD	I	Power supply PD signal	0 to 3.3	—
11	RELAY	O	Relay control	0 to 3.3	—
12	DRF_B	O	Large power supply ON/OFF control signal	0 to 3.3	—
13	AC_DET	I	AC power supply state input	0 to 3.3	—
14	PD_TRG_B	I	Power down trigger signal	0 to 3.3	—

B CN3501 (D15) ↔ 50 ADDRESS L ASSY CN1602 (AD1)

Pin No.	Pin Name	I/O	Function	Voltage (V)	TP
1	NC	—	Non connection	—	—
2	ADR_PD	I	Address PD signal	0 to 3.3	—
3	PSIZE	I	Panel size judge signal	0	—
4	GND	—	GND	—	—
5	V+8V	O	+8 V power supply input	8	—
6	V+8V	O	+8 V power supply input	8	—
7	GND	—	GND	—	—
8	GND_LVDS	—	GND	—	—
9	NC	—	Non connection	—	—
10	TAN	O	LVDS data	1 to 1.4	—
11	TAP	O	LVDS data	1 to 1.4	—
12	NC	—	Non connection	—	—
13	GND_LVDS	—	GND	—	—
14	NC	—	Non connection	—	—
15	TBN	O	LVDS data	1 to 1.4	—
16	TBP	O	LVDS data	1 to 1.4	—
17	NC	—	Non connection	—	—
18	GND_LVDS	—	GND	—	—
19	NC	—	Non connection	—	—
20	TCN	O	LVDS data	1 to 1.4	—
21	TCP	O	LVDS data	1 to 1.4	—
22	NC	—	Non connection	—	—
23	GND_LVDS	—	GND	—	—
24	NC	—	Non connection	—	—
25	TCLKN	O	LVDS data	1 to 1.4	—
26	TCLKP	O	LVDS data	1 to 1.4	—
27	NC	—	Non connection	—	—
28	GND_LVDS	—	GND	—	—
29	NC	—	Non connection	—	—
30	TDN	O	LVDS data	1 to 1.4	—
31	TDP	O	LVDS data	1 to 1.4	—
32	NC	—	Non connection	—	—
33	GND_LVDS	—	GND	—	—
34	GND	—	GND	—	—
35	V+3.3V	O	+3.3 V power supply output	3.3	—
36	V+3.3V	O	+3.3 V power supply output	3.3	—
37	GND	—	GND	—	—
38	DIV1	O	Data output timing control	3.3	—
39	DIV0	O	Data output timing control	3.3	—
40	GND	—	GND	—	—

## ■ 50 DIGITAL ASSY

A

**CN3502 (D16) ↔ 50 ADDRESS S ASSY CN1802 (AD1)**

Pin No.	Pin Name	I/O	Function	Voltage (V)	TP
1	NC	—	Non connection	—	—
2	ADR_PD	I	Address PD signal	0 to 3.3	—
3	PSIZE	I	Panel size judge signal	0	—
4	GND	—	GND	—	—
5	V+8V	O	+8 V power supply input	8	—
6	V+8V	O	+8 V power supply input	8	—
7	GND	—	GND	—	—
8	GND_LVDS	—	GND	—	—
9	NC	—	Non connection	—	—
10	TAN	O	LVDS data	1 to 1.4	—
11	TAP	O	LVDS data	1 to 1.4	—
12	NC	—	Non connection	—	—
13	GND_LVDS	—	GND	—	—
14	NC	—	Non connection	—	—
15	TBN	O	LVDS data	1 to 1.4	—
16	TBP	O	LVDS data	1 to 1.4	—
17	NC	—	Non connection	—	—
18	GND_LVDS	—	GND	—	—
19	NC	—	Non connection	—	—
20	TCN	O	LVDS data	1 to 1.4	—
21	TCP	O	LVDS data	1 to 1.4	—
22	NC	—	Non connection	—	—
23	GND_LVDS	—	GND	—	—
24	NC	—	Non connection	—	—
25	TCLKN	O	LVDS data	1 to 1.4	—
26	TCLKP	O	LVDS data	1 to 1.4	—
27	NC	—	Non connection	—	—
28	GND_LVDS	—	GND	—	—
29	NC	—	Non connection	—	—
30	TDN	O	LVDS data	1 to 1.4	—
31	TDP	O	LVDS data	1 to 1.4	—
32	NC	—	Non connection	—	—
33	GND_LVDS	—	GND	—	—
34	GND	—	GND	—	—
35	V+3.3V	O	+3.3 V power supply output	3.3	—
36	V+3.3V	O	+3.3 V power supply output	3.3	—
37	GND	—	GND	—	—
38	DIV1	O	Data output timing control	0	—
39	DIV0	O	Data output timing control	0	—
40	GND	—	GND	—	—

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## ■ 50 DIGITAL ASSY

A

CN3503 (D17) ↔ 50 ADDRESS S ASSY CN1802 (AD1)

Pin No.	Pin Name	I/O	Function	Voltage (V)	TP
1	NC	-	Non connection	-	-
2	ADR_PD	I	Address PD signal	0 to 3.3	-
3	PSIZE	I	Panel size judge signal	0	-
4	GND	-	GND	-	-
5	V+8V	O	+8 V power supply input	8	-
6	V+8V	O	+8 V power supply input	8	-
7	GND	-	GND	-	-
8	GND_LVDS	-	GND	-	-
9	NC	-	Non connection	-	-
10	TAN	O	LVDS data	1 to 1.4	-
11	TAP	O	LVDS data	1 to 1.4	-
12	NC	-	Non connection	-	-
13	GND_LVDS	-	GND	-	-
14	NC	-	Non connection	-	-
15	TBN	O	LVDS data	1 to 1.4	-
16	TBP	O	LVDS data	1 to 1.4	-
17	NC	-	Non connection	-	-
18	GND_LVDS	-	GND	-	-
19	NC	-	Non connection	-	-
20	TCN	O	LVDS data	1 to 1.4	-
21	TCP	O	LVDS data	1 to 1.4	-
22	NC	-	Non connection	-	-
23	GND_LVDS	-	GND	-	-
24	NC	-	Non connection	-	-
25	TCLKN	O	LVDS data	1 to 1.4	-
26	TCLKP	O	LVDS data	1 to 1.4	-
27	NC	-	Non connection	-	-
28	GND_LVDS	-	GND	-	-
29	NC	-	Non connection	-	-
30	TDN	O	LVDS data	1 to 1.4	-
31	TDP	O	LVDS data	1 to 1.4	-
32	NC	-	Non connection	-	-
33	GND_LVDS	-	GND	-	-
34	GND	-	GND	-	-
35	V+3.3V	O	+3.3 V power supply output	3.3	-
36	V+3.3V	O	+3.3 V power supply output	3.3	-
37	GND	-	GND	-	-
38	DIV1	O	Data output timing control	3.3	-
39	DIV0	O	Data output timing control	0	-
40	GND	-	GND	-	-

E

F

**■ 50 DIGITAL ASSY**

A

**CN3504 (D18) ↔ 50 ADDRESS L ASSY CN1602 (AD1)**

Pin No.	Pin Name	I/O	Function	Voltage (V)	TP
1	NC	—	Non connection	—	—
2	ADR_PD	I	Address PD signal	0 to 3.3	—
3	PSIZE	I	Panel size judge signal	0	—
4	GND	—	GND	—	—
5	V+8V	O	+8 V power supply input	8	—
6	V+8V	O	+8 V power supply input	8	—
7	GND	—	GND	—	—
8	GND_LVDS	—	GND	—	—
9	NC	—	Non connection	—	—
10	TAN	O	LVDS data	1 to 1.4	—
11	TAP	O	LVDS data	1 to 1.4	—
12	NC	—	Non connection	—	—
13	GND_LVDS	—	GND	—	—
14	NC	—	Non connection	—	—
15	TBN	O	LVDS data	1 to 1.4	—
16	TBP	O	LVDS data	1 to 1.4	—
17	NC	—	Non connection	—	—
18	GND_LVDS	—	GND	—	—
19	NC	—	Non connection	—	—
20	TCN	O	LVDS data	1 to 1.4	—
21	TCP	O	LVDS data	1 to 1.4	—
22	NC	—	Non connection	—	—
23	GND_LVDS	—	GND	—	—
24	NC	—	Non connection	—	—
25	TCLKN	O	LVDS data	1 to 1.4	—
26	TCLKP	O	LVDS data	1 to 1.4	—
27	NC	—	Non connection	—	—
28	GND_LVDS	—	GND	—	—
29	NC	—	Non connection	—	—
30	TDN	O	LVDS data	1 to 1.4	—
31	TDP	O	LVDS data	1 to 1.4	—
32	NC	—	Non connection	—	—
33	GND_LVDS	—	GND	—	—
34	GND	—	GND	—	—
35	V+3.3V	O	+3.3 V power supply output	3.3	—
36	V+3.3V	O	+3.3 V power supply output	3.3	—
37	GND	—	GND	—	—
38	DIV1	O	Data output timing control	0	—
39	DIV0	O	Data output timing control	3.3	—
40	GND	—	GND	—	—

B

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## ■ 50 DIGITAL ASSY

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CN3506 (D20) ↔ 50 Y MAIN DRIVE ASSY CN2001 (Y1)

Pin No.	Pin Name	I/O	Function	Voltage (V)	TP
40	PSW2	O	Function standby control signal	0 to 3.3	—
39	YDRV_PD	I	Y drive PD signal	0 to 3.3	—
38	SCAN_PD	I	Y drive PD signal	0 to 3.3	—
37	YSUS_PD	I	Y drive PD signal	0 to 3.3	—
36	YDD_PD	I	Y drive PD signal	0 to 3.3	—
35	GND	—	GND	—	—
34	GND	—	GND	—	—
33	GND	—	GND	—	—
32	GND	—	GND	—	—
31	VYPRST_ADJ	O	Y drive control signal	0 to 3.3	—
30	VOFS_ADJ	O	Y drive control signal	0 to 3.3	—
29	GND	—	GND	—	—
28	YSOFT-D	O	Y drive control signal	0 to 3.3	—
27	YRsv3	O	Y drive control signal	0 to 3.3	—
26	YNOF5	O	Y drive control signal	0 to 3.3	—
25	GND	—	GND	—	—
24	YRsv2	O	Y drive control signal	0 to 3.3	—
23	YNRST	O	Y drive control signal	0 to 3.3	—
22	YSUS_MSK	O	Y drive control signal	0 to 3.3	—
21	GND	—	GND	—	—
20	SUS_MUTE	O	Y drive control signal	0 to 3.3	—
19	YPR-U	O	Y drive control signal	0 to 3.3	—
18	GND	—	GND	—	—
17	YSUS_G	O	Y drive control signal	0 to 3.3	—
16	YSUS_D	O	Y drive control signal	0 to 3.3	—
15	GND	—	GND	—	—
14	YSUS_U	O	Y drive control signal	0 to 3.3	—
13	YSUS_B	O	Y drive control signal	0 to 3.3	—
12	GND	—	GND	—	—
11	OC1 (-1)	O	Scan control signal	0 to 3.3	—
10	OC2	O	Scan control signal	0 to 3.3	—
9	LE	O	Scan control signal	0 to 3.3	—
8	GND	—	GND	—	—
7	CLK1	O	Scan control signal	0 to 3.3	—
6	CLR	O	Scan control signal	0 to 3.3	—
5	GND	—	GND	—	—
4	SI_H	O	Scan control signal	0 to 3.3	—
3	SI_L	O	Scan control signal	0 to 3.3	—
2	SCN5V_PD	I	Scan 5 V PD signal	0 to 3.3	—
1	YCN_PD	O	Y drive PD signal	0 to 3.3	—

E

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A

**CN3505 (D19) ↔ 50 X MAIN DRIVE ASSY CN1001 (X1)**

Pin No.	Pin Name	I/O	Function	Voltage (V)	TP
1	PSW2	O	Function standby control signal	0 to 3.3	—
2	XSUS_PD	I	X drive PD signal	0 to 3.3	—
3	XDD_PD	I	X drive PD signal	0 to 3.3	—
4	XDRV_PD	I	X drive PD signal	0 to 3.3	—
5	GND	—	GND	—	—
6	SUS_MUTE	O	X drive control signal	0 to 3.3	—
7	XSUS_MSK	O	X drive control signal	0 to 3.3	—
8	GND	—	GND	—	—
9	XNR_D	O	X drive control signal	0 to 3.3	—
10	GND	—	GND	—	—
11	XSUS_G	O	X drive control signal	0 to 3.3	—
12	GND	—	GND	—	—
13	XSUS_D	O	X drive control signal	0 to 3.3	—
14	GND	—	GND	—	—
15	XSUS_U	O	X drive control signal	0 to 3.3	—
16	GND	—	GND	—	—
17	XSUS_B	O	X drive control signal	0 to 3.3	—
18	XCN_PD	O	X drive PD signal	0 to 3.3	—

B

C

D

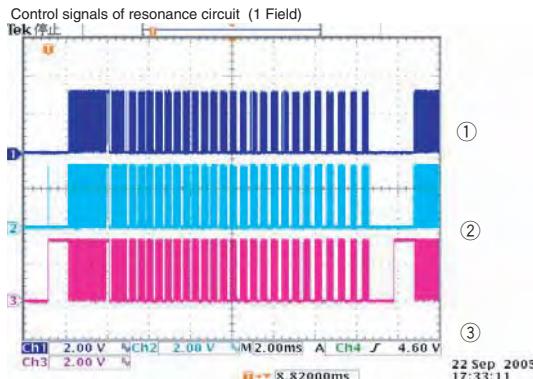
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## 3.19 WAVEFORMS

### 3.19.1 PDP-4216HD WAVEFORMS

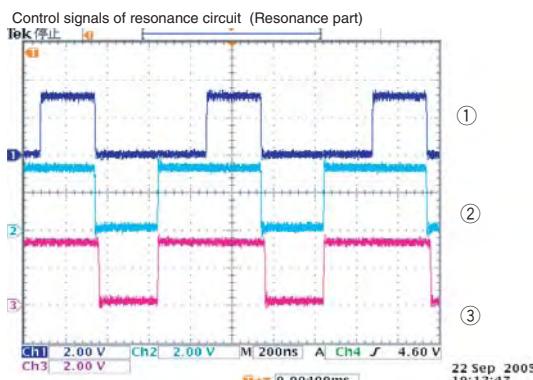
#### ■ 42 ADDRESS Ass'y (AWV2335-)



input : VIDEO 60Hz  
signal : COLOR BAR (MKSS17)  
① CH1 : ADR\_B  
V : 2V/div  
H : 2ms/div  
side-A test plane "B"

② CH2 : ADR\_U  
V : 2V/div  
H : 2ms/div  
side-A test plane "U"

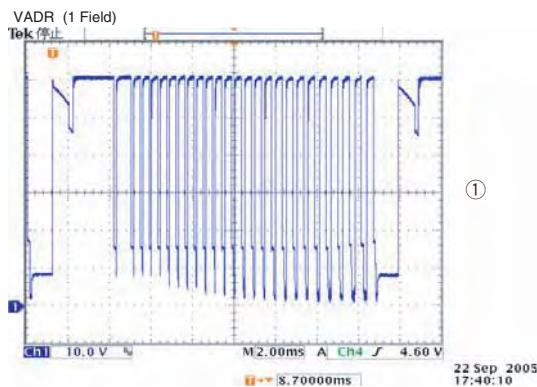
③ CH3 : ADR\_D  
V : 2V/div  
H : 2ms/div  
side-A test plane "D"



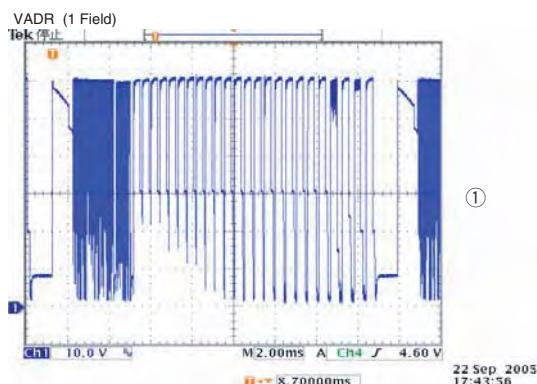
input : VIDEO 60Hz  
signal : COLOR BAR (MKSS17)  
① CH1 : ADR\_B  
V : 2V/div  
H : 200ns/div  
side-A test plane "B"

② CH2 : ADR\_U  
V : 2V/div  
H : 200ns/div  
side-A test plane "U"

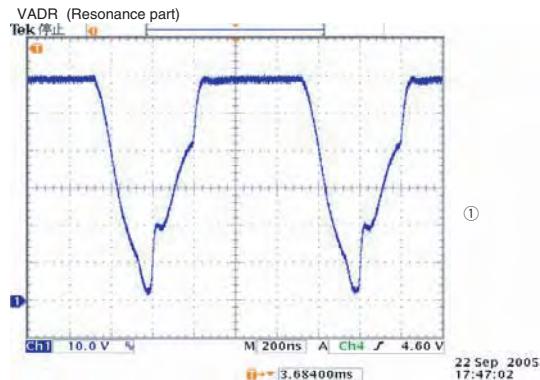
③ CH3 : ADR\_D  
V : 2V/div  
H : 200ns/div  
side-A test plane "D"



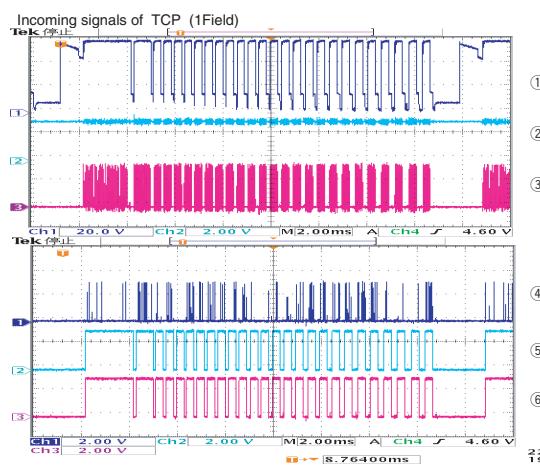
input : VIDEO 60Hz  
signal : COLOR BAR (MKSS17)  
① CH1 : IC1555 3pin (VDD2) (side-A through hole)  
V : 10V/div  
H : 2ms/div



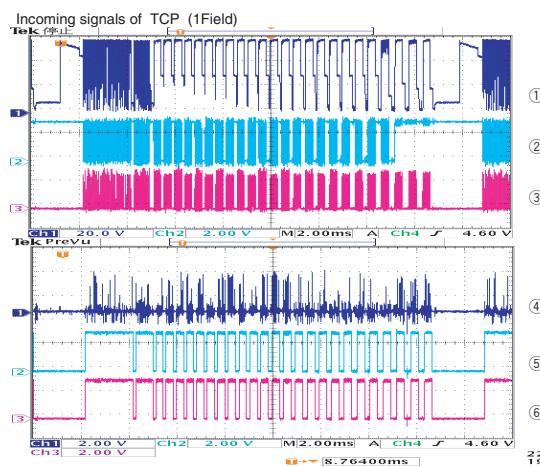
input : VIDEO 60Hz  
signal : Checkered pattern of Black-White (MKSS13)  
① CH1 : IC1555 3pin (VDD2) (side-A through hole)  
V : 10V/div  
H : 2ms/div



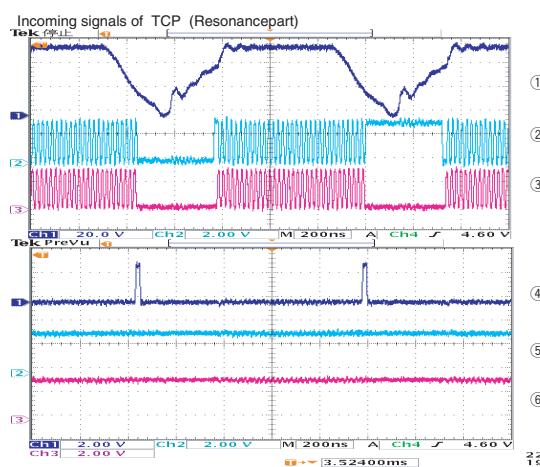
input : VIDEO 60Hz  
signal : Checkered pattern of Black- White (MKSS13)  
① CH1 : IC1555 3pin (VDD2) (side-Athrough hole)  
V : 10 V/div  
H : 200 ns/div



input : VIDEO 60Hz  
signal : COLOR BAR (MKSS17)  
① CH1 : IC1555 3pin (VDD2) (side-Athrough hole)  
V : 20 V/div  
H : 2 ms/div  
② CH2 : IC1555 9pin (A3) side-A test plane "R\_E"  
V : 2 V/div  
H : 2 ms/div  
③ CH3 : IC1555 16pin (CLK) side-A test plane "CLK1"  
V : 2 V/div  
H : 2 ms/div  
④ CH1 : IC1555 14pin (LE) side-A test plane "LE\_E"  
V : 2 V/div  
H : 2 ms/div  
⑤ CH2 : IC1555 19pin (HBLK) side-A test plane "HBLK"  
V : 2 V/div  
H : 2 ms/div  
⑥ CH3 : IC1555 17pin (LBLK) side-A test plane "LBLK"  
V : 2 V/div  
H : 2 ms/div



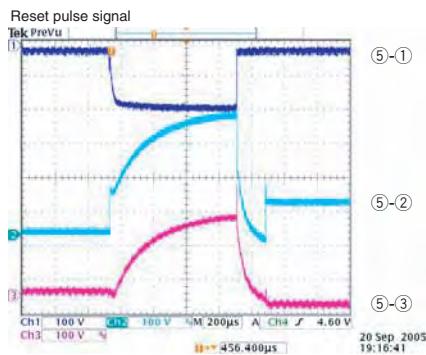
input : VIDEO 60Hz  
signal : Checkered pattern of Black- White (MKSS13)  
① CH1 : IC1555 3pin (VDD2) (side-Athrough hole)  
V : 20 V/div  
H : 2 ms/div  
② CH2 : IC1555 9pin (A3) side-A test plane "R\_E"  
V : 2 V/div  
H : 2 ms/div  
③ CH3 : IC1555 16pin (CLK) side-A test plane "CLK1"  
V : 2 V/div  
H : 2 ms/div  
④ CH1 : IC1555 14pin (LE) side-A test plane "LE\_E"  
V : 2 V/div  
H : 2 ms/div  
⑤ CH2 : IC1555 19pin (HBLK) side-A test plane "HBLK"  
V : 2 V/div  
H : 2 ms/div  
⑥ CH3 : IC1555 17pin (LBLK) side-A test plane "LBLK"  
V : 2 V/div  
H : 2 ms/div



input : VIDEO 60Hz  
signal : Checkered pattern of Black- White (MKSS13)  
① CH1 : IC1555 3pin (VDD2) (side-Athrough hole)  
V : 20 V/div  
H : 200 ns/div  
② CH2 : IC1555 9pin (A3) side-A test plane "R\_E"  
V : 2 V/div  
H : 200 ns/div  
③ CH3 : IC1555 16pin (CLK) side-A test plane "CLK1"  
V : 2 V/div  
H : 200 ns/div  
④ CH1 : IC1555 14pin (LE) side-A test plane "LE\_E"  
V : 2 V/div  
H : 200 ns/div  
⑤ CH2 : IC1555 19pin (HBLK) side-A test plane "HBLK"  
V : 2 V/div  
H : 200 ns/div  
⑥ CH3 : IC1555 17pin (LBLK) side-A test plane "LBLK"  
V : 2 V/div  
H : 200 ns/div



A

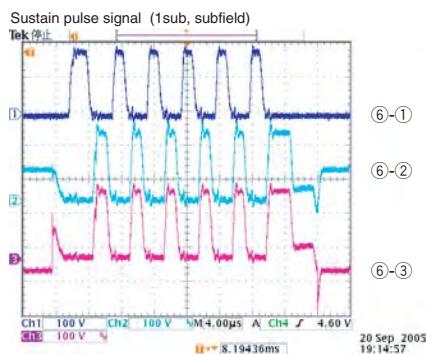


input : VIDEO 60 Hz  
signal : COLOR BAR(MKSS17)  
① CH1 : R1277(XPSUS)-K1203(SUSGND)  
V : 100 V/div H : 200μs/div (X DRIVE Assy)

② CH2 : K2701(SCANOUT)-K2330(SUSGND)  
V : 100 V/div H : 200μs/div (Y DRIVE Assy)

③ CH3 : F2301(YPsus)-K2330(SUSGND)  
V : 100 V/div H : 200μs/div (Y DRIVE Assy)

B

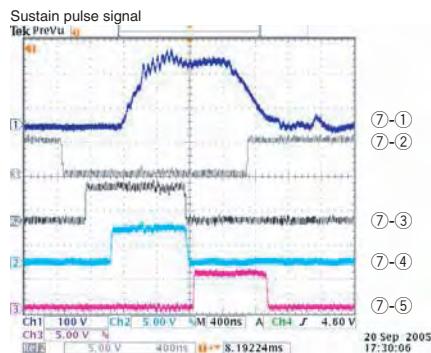


input : VIDEO 60 Hz  
signal : COLOR BAR(MKSS17)  
① CH1 : R1277(XPSUS)-K1203(SUSGND)  
V : 100 V/div H : 4 μs/div (X DRIVE Assy)

② CH2 : K2701(SCANOUT)-K2330(SUSGND)  
V : 100 V/div H : 4μs/div (Y DRIVE Assy)

③ CH3 : F2301(YPsus)-K2330(SUSGND)  
V : 100 V/div H : 4μs/div (Y DRIVE Assy)

C



input : VIDEO 60 Hz  
signal : COLOR BAR(MKSS17)  
① CH1 : F2301(YPsus)-K2330(SUSGND)  
V : 100 V/div H : 400 ns/div (Y DRIVE Assy)

② Ref3 : K2004(YSUS-G)-K2002(GND\_D)  
V : 5 V/div H : 400 ns/div (Y DRIVE Assy)

③ Ref2 : K2011(YSUS-U)-K2002(GND\_D)  
V : 5 V/div H : 400 ns/div (Y DRIVE Assy)

④ CH2 : K2009(YSUS-B)-K2002(GND\_D)  
V : 5 V/div H : 400 ns/div (Y DRIVE Assy)

⑤ CH3 : K2010(YSUS-D)-K2002(GND\_D)  
V : 5 V/div H : 400 ns/div (Y DRIVE Assy)

D

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F

## 3.19.2 PDP-5016HD WAVEFORMS

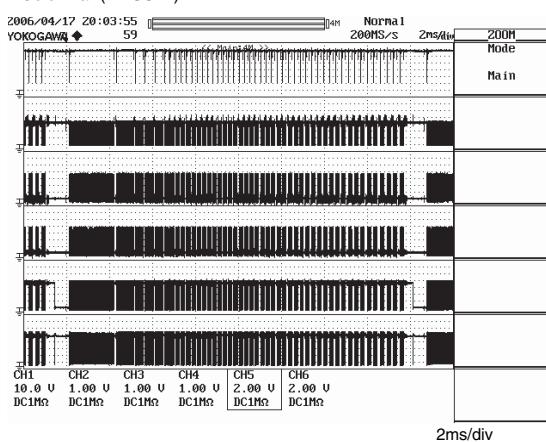
### 50 ADDRESS L Assy Waveform

A

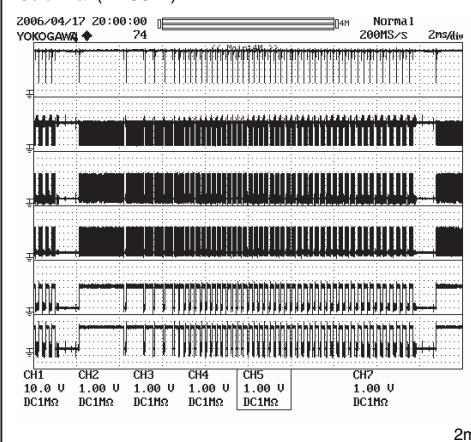
Measuring CH	Waveform	Measuring Point	Waveform	Measuring Point
① CH1	Resonance waveform (V+ADR)	L1730	Resonance waveform (V+ADR)	L1730
② CH2	R ch signal	R1608	R ch signal	R1608
③ CH3	CLK	R1637	CLK	R1637
④ CH4	LE	R1621	LE	R1621
⑤ CH5	ADR-D	R1720	HBLK	R1615
⑥ CH6	ADR-B	R1714	-	-
⑦ CH7	-	-	LBLK	R1616

(8)  
(7)

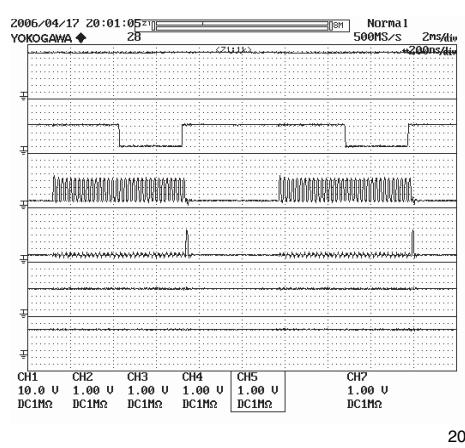
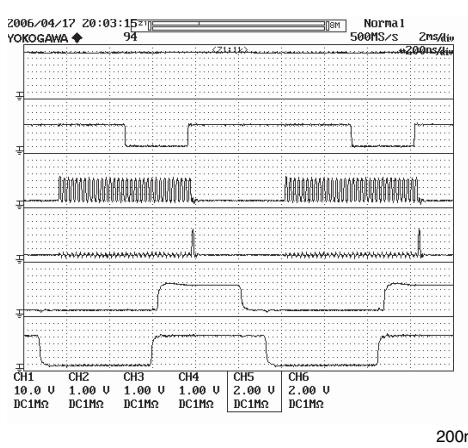
Color-Bar (MKSS17)



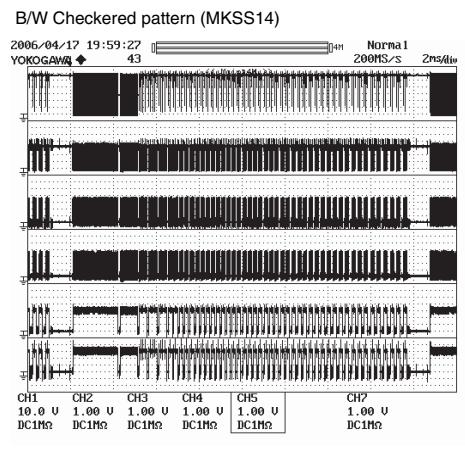
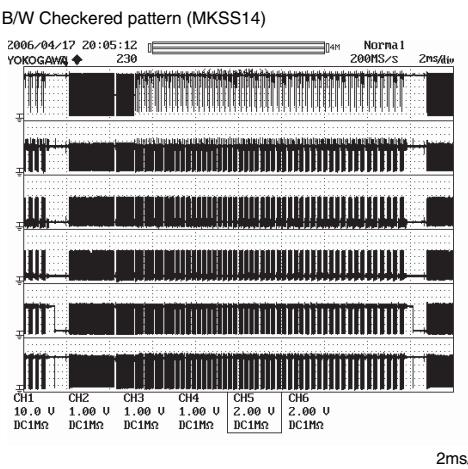
Color-Bar (MKSS17)



B

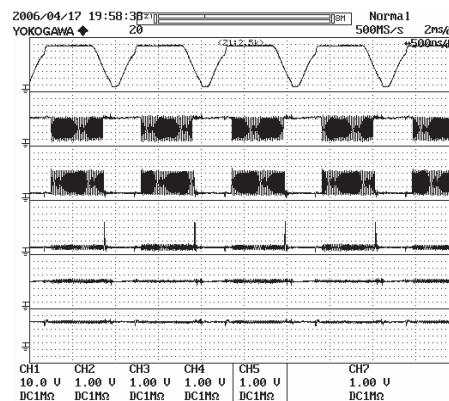
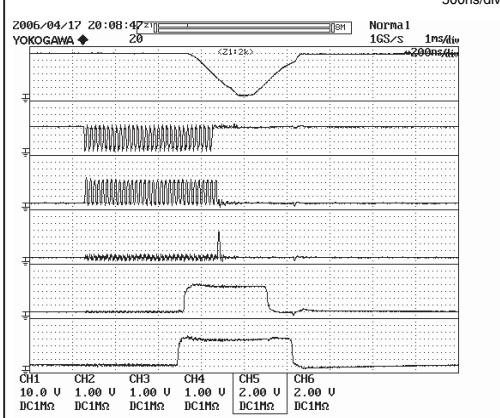
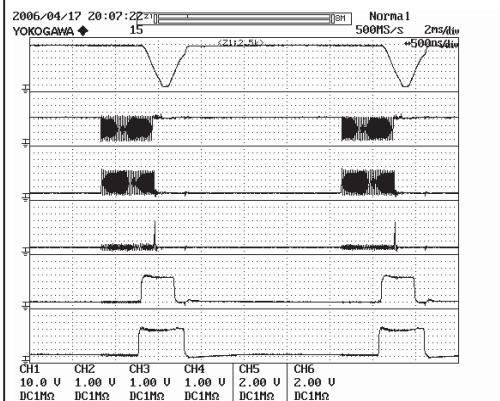


C



E

A



B

C

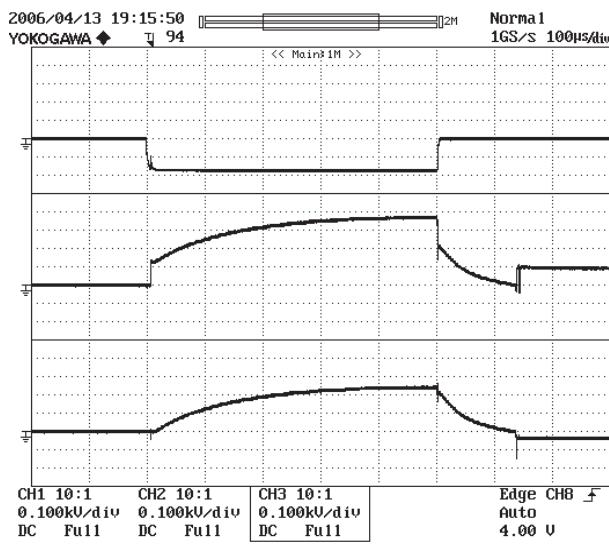
D

E

F

A

### 50 X/Y DRIVE Assy Waveform

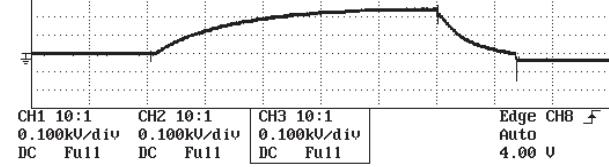


⑨ CH1 R1248 (XPSUS) -K1202(SUSGND)  
V:100 V/div H:100 uS/div  
(X drive Assy)

⑩ CH2 K2901 (ScanOUT) -K2701(SUSGND)  
V:100 V/div H:100 uS/div  
(Y drive Assy)

⑪ CH3 F2207 (YPSUS) -K2203(SUSGND)  
V:100 V/div H:100 uS/div  
(Y drive Assy)

B



⑫ CH1 R1248 (XPSUS) -K1202(SUSGND)  
V:50 V/div H:5 uS/div  
(X drive Assy)

⑬ CH2 K2901 (ScanOUT) -K2701(SUSGND)  
V:50 V/div H:5 uS/div  
(Y drive Assy)

⑭ CH3 F2207 (YPSUS) -K2203(SUSGND)  
V:50 V/div H:5 uS/div  
(Y drive Assy)

C



⑮ CH1 F2207 (YPSUS) -K2203(SUSGND)  
V:100 V/div H:500 nS/div  
(Y drive Assy)

⑯ CH2 K2021 (YSUS\_G) -K2014(GND)  
V:5 V/div H:500 nS/div  
(Y drive Assy)

⑰ CH3 K2009 (YSUS\_U) -K2014(GND)  
V:5 V/div H:500 nS/div  
(Y drive Assy)

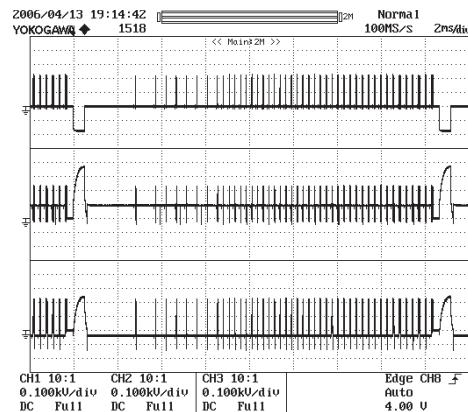
⑱ CH4 K2013 (YSUS\_B) -K2014(GND)  
V:5 V/div H:500 nS/div  
(Y drive Assy)

⑲ CH5 K2010 (YSUS\_D) -K2014(GND)  
V:5 V/div H:500 nS/div  
(Y drive Assy)

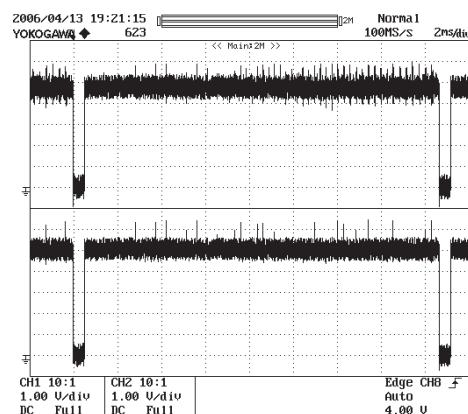
E

F

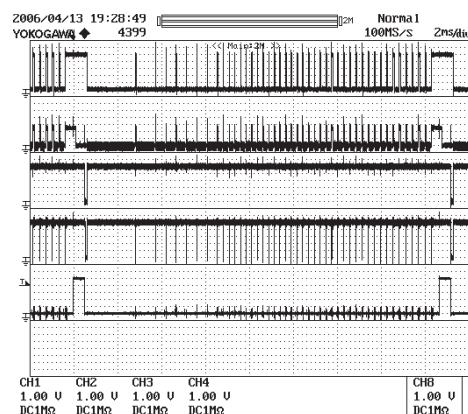
## 50 X/Y DRIVE Assy Waveform



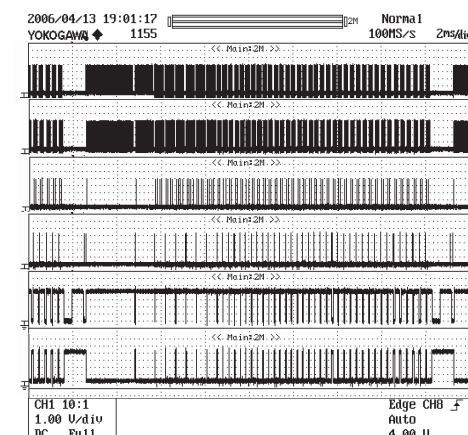
- ②₀ CH1 R1248 (XPSUS) -K1202(SUSGND)  
V:100V/div H:2ms/div (X drive Assy)
- ②₁ CH2 K2901 (ScanOUT) -K2701(SUSGND)  
V:100V/div H:2ms/div (Y drive Assy)
- ②₂ CH3 F2207 (YPSUS) -K2203(SUSGND)  
V:100V/div H:2ms/div (Y drive Assy)



- ②₃ CH1 K1013 (XSUS\_MSK)-K1004(GND)  
V:1V/div H:2ms/div (X drive Assy)
- ②₄ CH2 K1007 (XNR-D) -K1004(GND)  
V:1V/div H:2ms/div (X drive Assy)



- ②₅ CH1 K2007 (YNOFS) -K2014(GND)  
V:1V/div H:2ms/div (Y drive Assy)
- ②₆ CH2 K2007 (YSUS\_MSK)-K2014(GND)  
V:1V/div H:2ms/div (Y drive Assy)
- ②₇ CH3 K2008 (YNRST) -K2014(GND)  
V:1V/div H:2ms/div (Y drive Assy)
- ②₈ CH4 K2006 (SOFT-D) -K2014(GND)  
V:1V/div H:2ms/div (Y drive Assy)
- ②₉ CH5 K2011 (YPR-U) -K2014(GND)  
V:1V/div H:2ms/div (Y drive Assy)

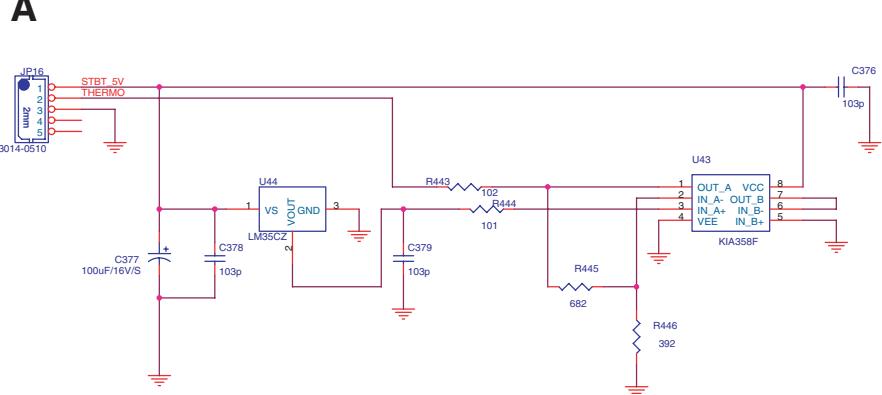


- ③₀ CH1 IC2001 18(LE) -K2014GND  
V:1V/div H:2ms/div (Y drive Assy)
- ③₁ CH2 IC2001 17 (CLK) -K2014(GND)  
V:1V/div H:2ms/div (Y drive Assy)
- ③₂ CH3 IC2001 16 (SI\_H) -K2014(GND)  
V:1V/div H:2ms/div (Y drive Assy)
- ③₃ CH4 IC2001 15 (CLR) -K2014(GND)  
V:1V/div H:2ms/div (Y drive Assy)
- ③₄ CH5 IC2001 14 (OC2) -K2014(GND)  
V:1V/div H:2ms/div (Y drive Assy)
- ③₅ CH5 IC2001 13 (OC1) -K2014(GND)  
V:1V/div H:2ms/div (Y drive Assy)

## 3.20 CIRCUIT DIAGRAM

### 3.20.1 SUB TERMINAL SENSOR ASSY

A



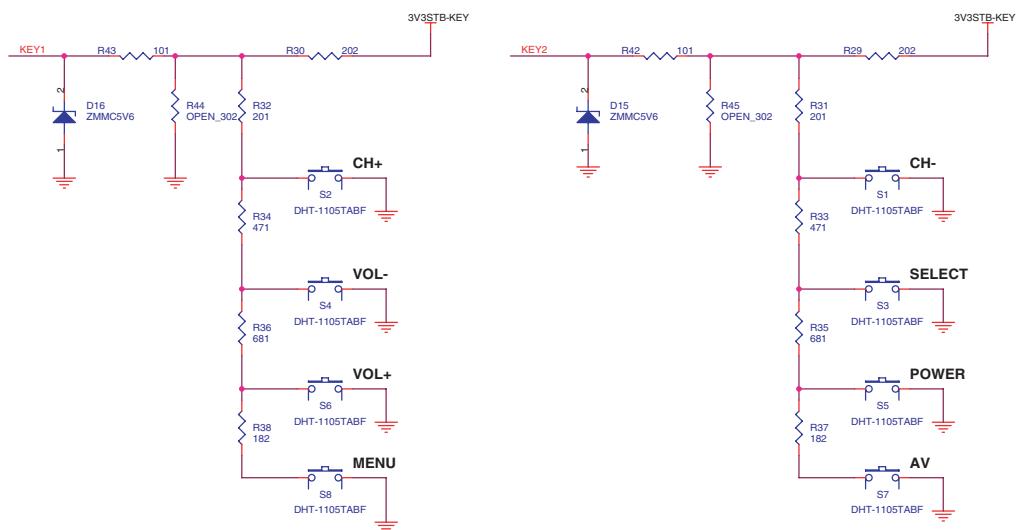
B

D01

D01

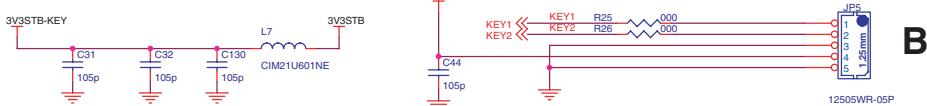
### 3.20.2 SUB KEY ASSY

C



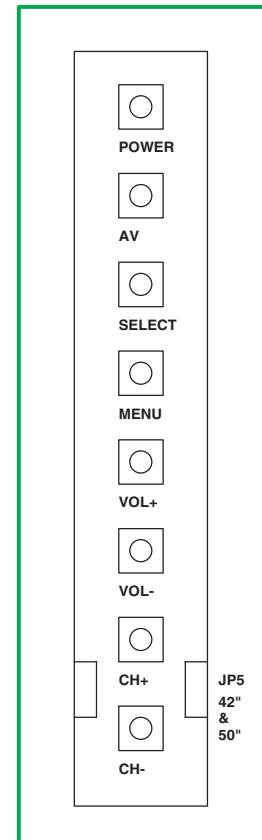
D

Changed Part (from 6P)



B

JP4 Del (2006. 05. 26)

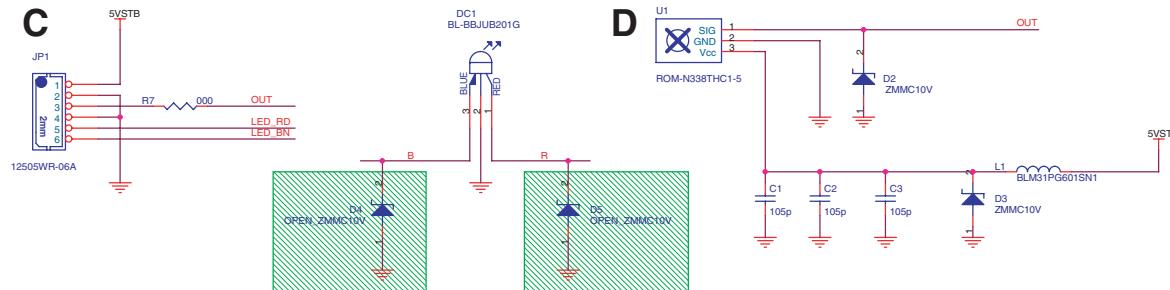


F

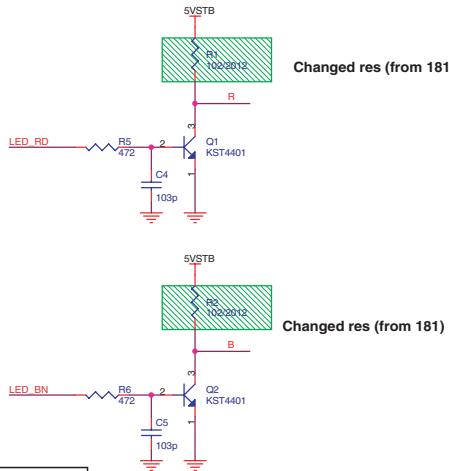
D01

D01

### **3.20.3 SUB IR & LED ASSY**



**Added zenor doide**

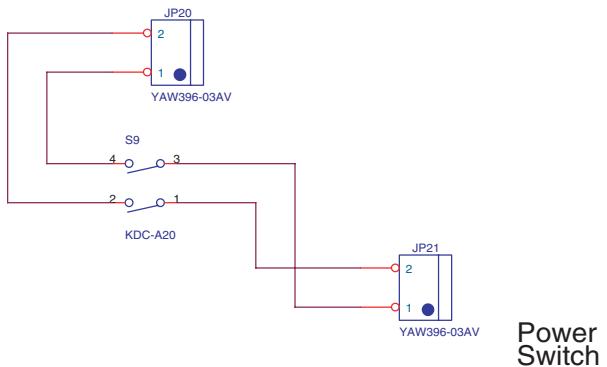


D02

D02



1



A

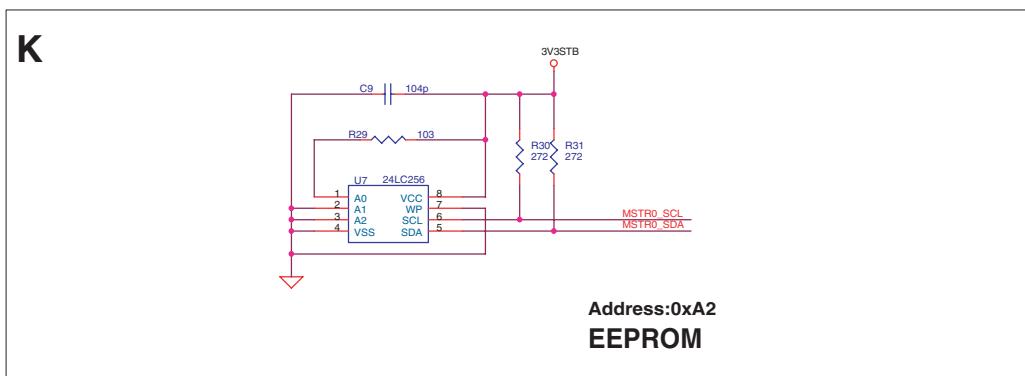
D04

D04

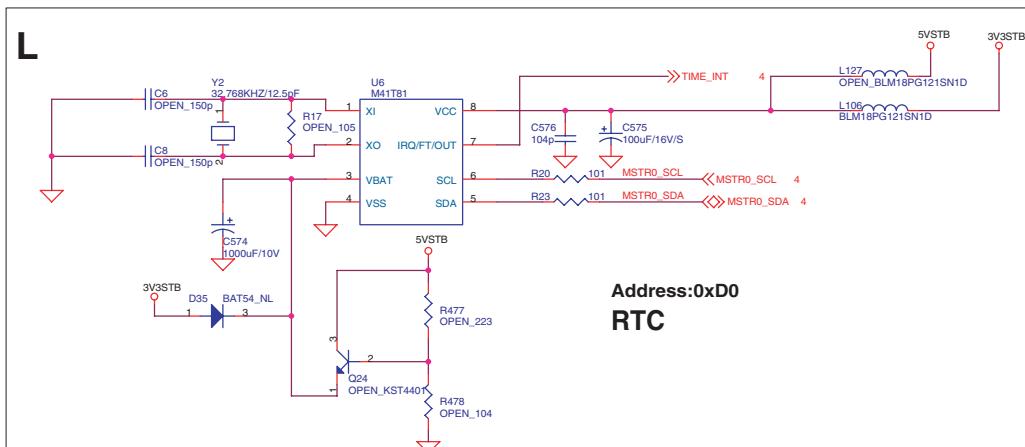
C

### **3.20.6 MAIN ASSY (1/18)**

- RTC



Address:0xA2  
**EEROM**



Address:0xD0  
BTC

D04

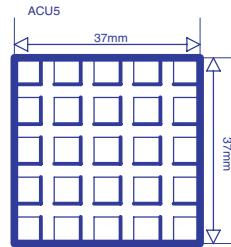
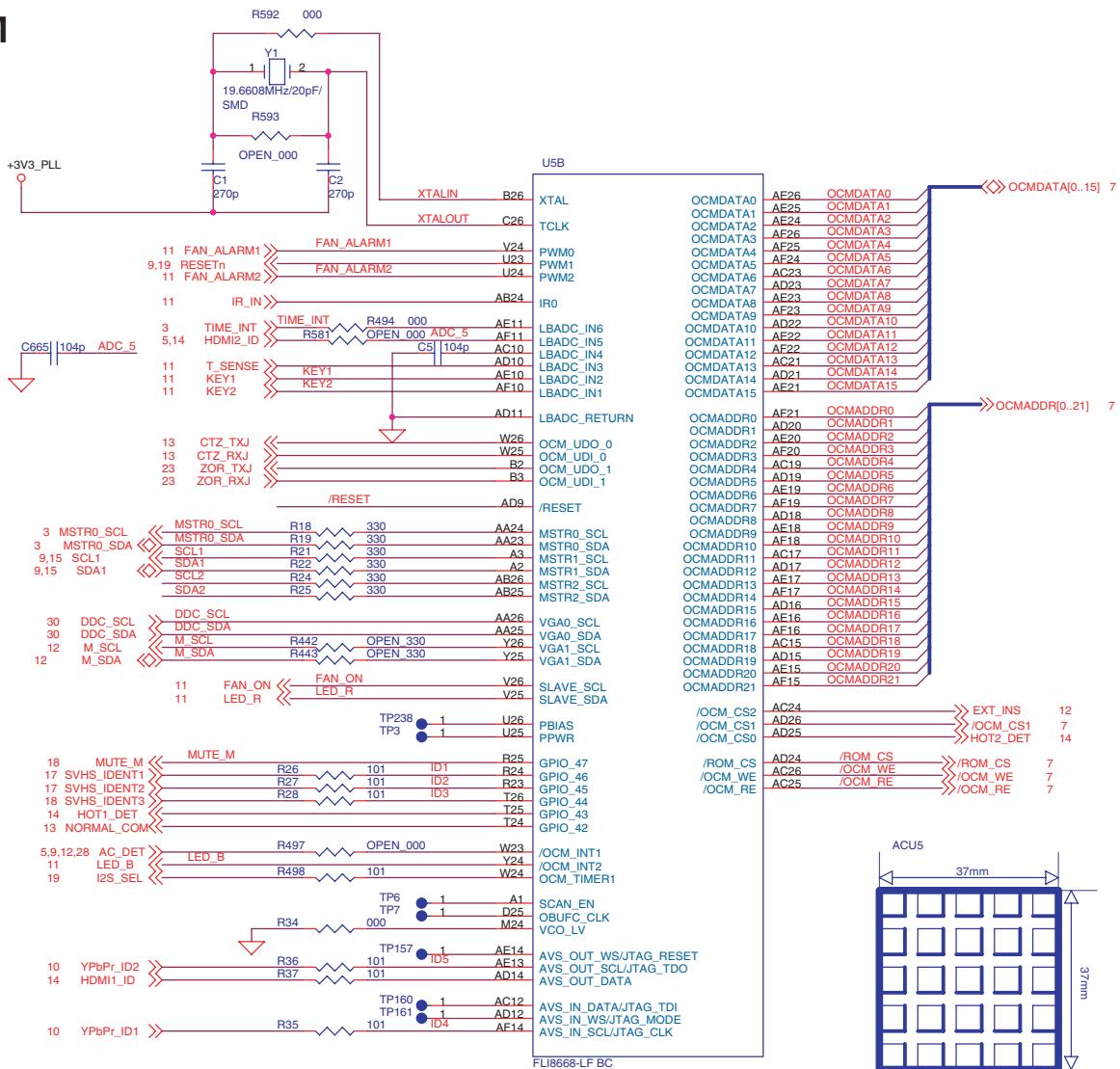
D04

### **3.20.7 MAIN ASSY (2/18)**

- **FLI8668 Miscellaneous IO and Circuitry**

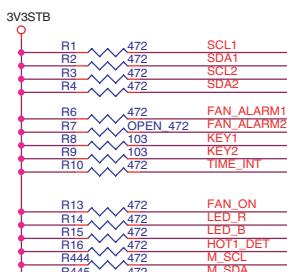
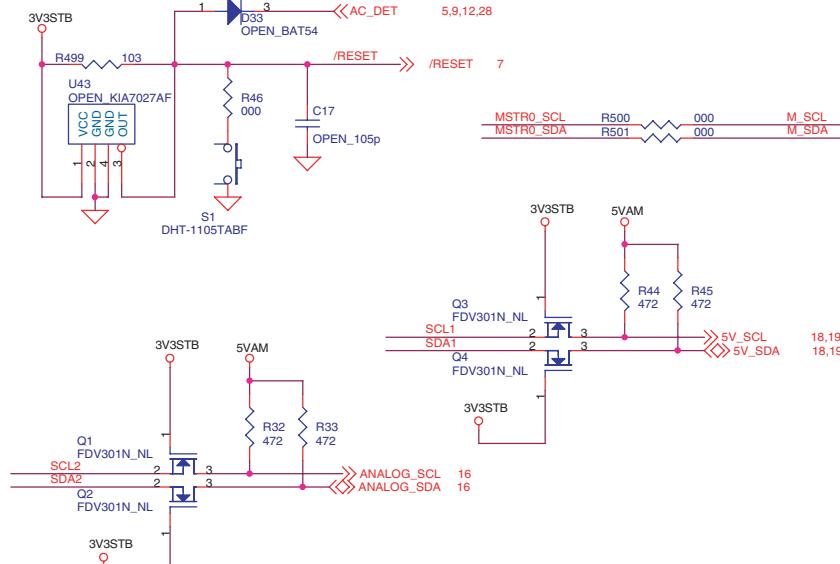
A

M



37\*37\*9(AL 6063S-T5)

5

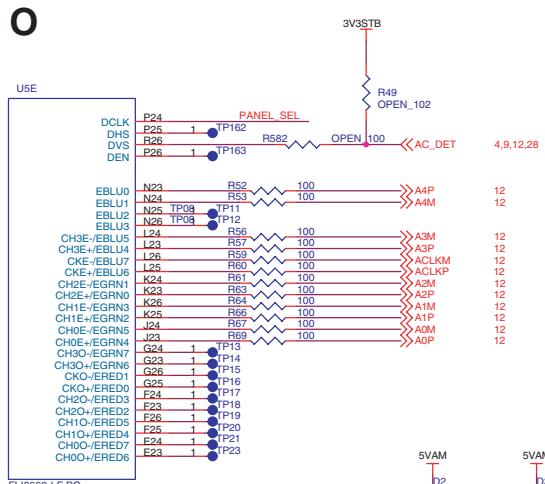
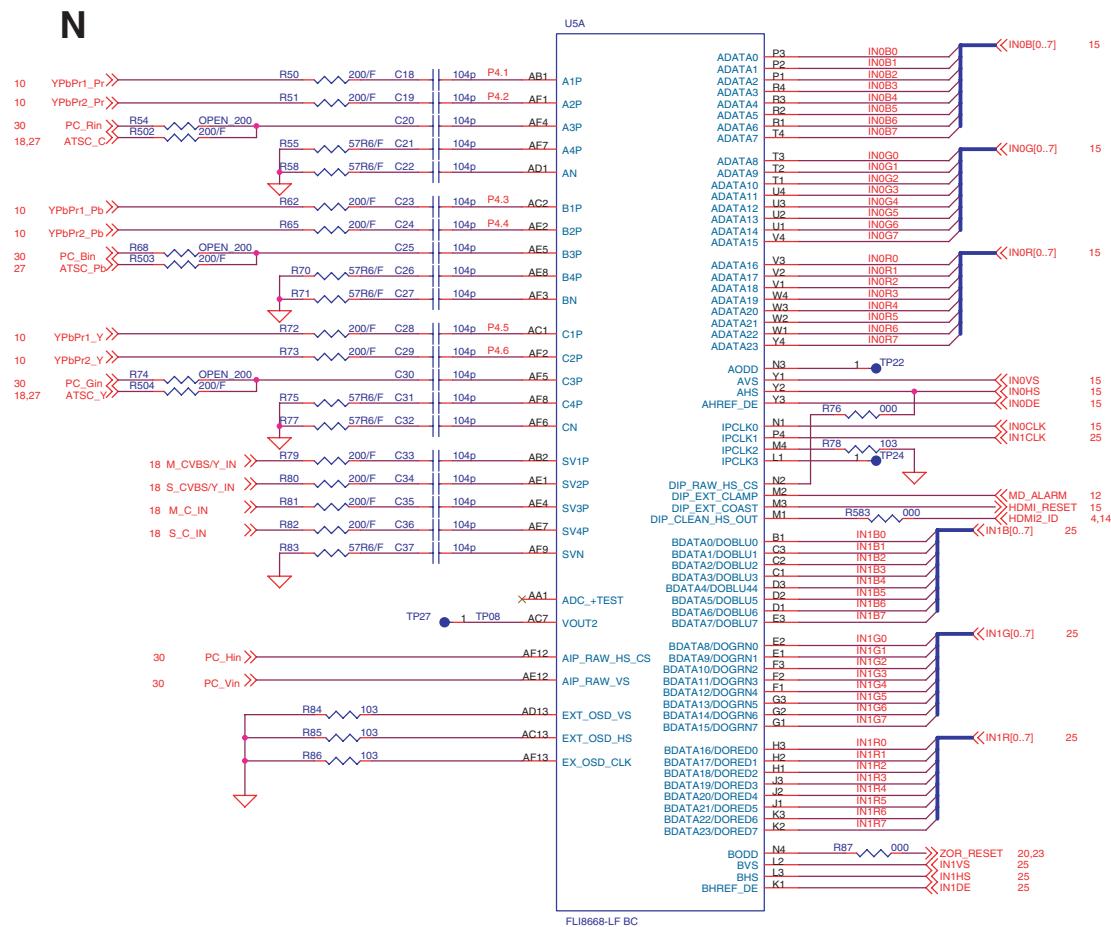


D05

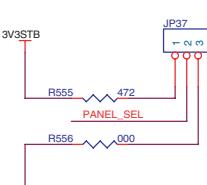
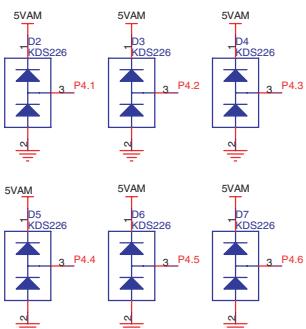
D05

### **3.20.8 MAIN ASSY (3/18)**

- **FLI8668 Input/Output**



H7 (42")	1-2
X7 (50")	2-3



D06

PDP-5016HD

D06

### **3.20.9 MAIN ASSY (4/18)**

- **FLI8668 DDR SDRAM**

A

Q



FLI8668-LF BC

Diagram illustrating the connection between **FSADDR[0..12]** and **U9**. The connection is as follows:

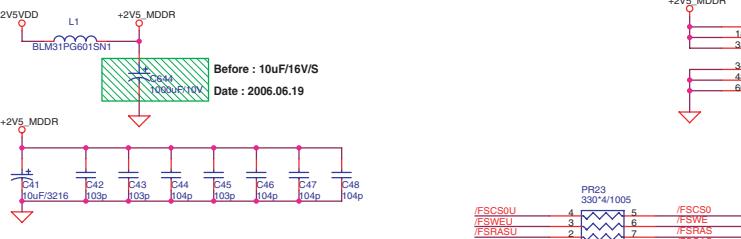
- FSADDR[0..12]** connects to **U9** pin 29 (**FSADDR0**).
- U9** pin 29 (**FSADDR0**) connects to **FSADDR[29..30]**.
- FSADDR[29..30]** connects to **U9** pin 30 (**A0**) and **U9** pin 31 (**A1**).
- U9** pin 29 (**FSADDR0**) connects to **FSDATA[0..31]**.
- U9** pin 30 (**A0**) connects to **FSDATA[0..31]**.
- U9** pin 31 (**A1**) connects to **FSDATA[0..31]**.

B

C

FSADDR[0..12]		S	HYSU281622ETP-4	
		U10		
FSADDR0	29	A0	D0	2
FSADDR1	30	A1	D1	4
FSADDR2	31	A2	D2	5
FSADDR3	32	A3	D3	6
FSADDR4	33	A4	D4	8
FSADDR5	36	A5	D5	10
FSADDR6	37	A6	D6	11
FSADDR7	38	A7	D7	12
FSADDR8	39	A8	D8	14
FSADDR9	40	A9	D9	16
FSADDR10	20	A10/AP	D10	57
FSADDR11	41	A11		
FSADDR12	42			

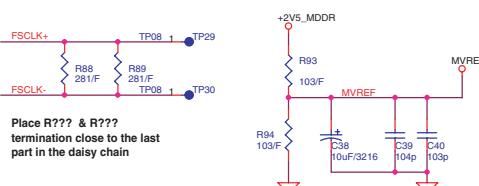
D



FSDOSU0	PR18	1	4	FSDOS1
FSDOSU0	330'2	2	3	FSDOSM1
FSDOSU1	PR19	1	4	FSDOS0
FSDOSU1	330'2	2	3	FSDOSM0
FSDOSU2	PR20	1	4	FSDOS3
FSDOSU2	330'2	2	3	FSDOSM3
FSDOSU3	PR21	1	4	FSDOSQ2
FSDOSU3	330'2	2	3	FSDOSM2

Minimize trace length/difference between DOS domain and data.

F



The diagram illustrates the memory mapping for FSADDR[0..12] across four memory blocks:

- FSADDR:** Addresses 0 to 7. It contains two 32-bit memory blocks: PR52[1] and PR63[1].
- FSCTRL:** Address 8. It contains two 32-bit memory blocks: FSADDR5[4] and FSADDR6[4].
- FSBKSEL:** Addresses 9 to 12. It contains two 32-bit memory blocks: FSADDR7[7] and FSADDR8[7].
- FSBKSEL0:** Addresses 13 to 16. It contains two 32-bit memory blocks: FSADDR9[4] and FSADDR10[4].

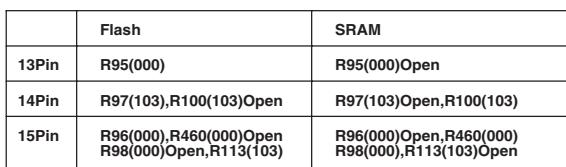
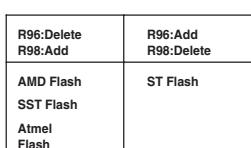
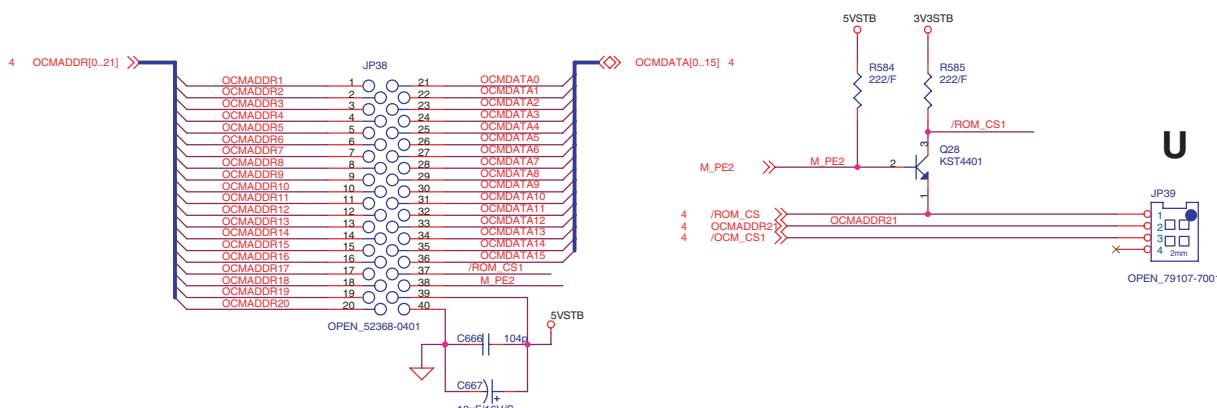
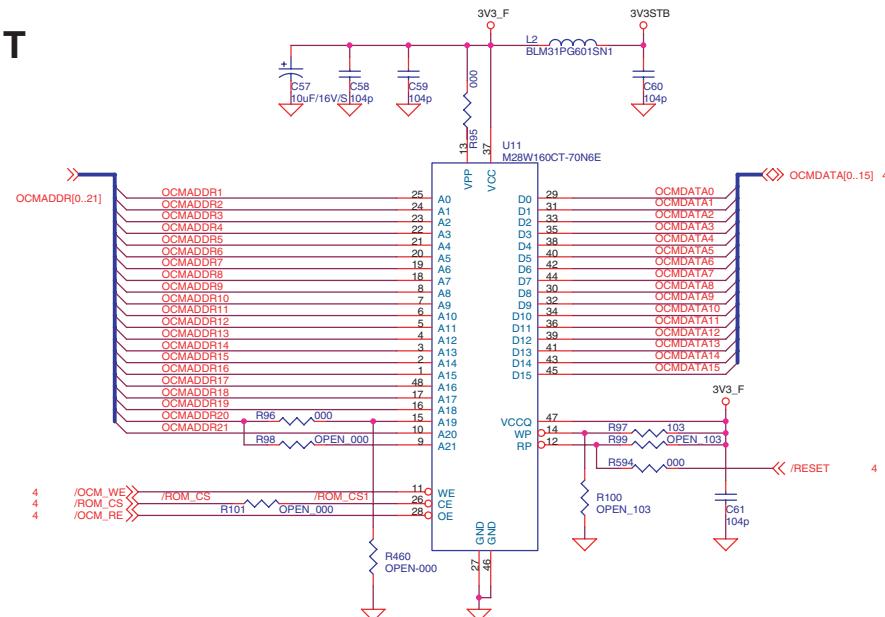
5

D07

D07

### **3.20.10 MAIN ASSY (5/18)**

- **FLI8668 Flash Memory**



Boot Strap	
6:0	I2C to JTAG bridge address or General use
7:	0=After power on Reset, continue the boot up using internal ROM 1=Stay in IntRom without checking any DDCB2Bi channel.(Force Debug)
8:	0=Use DDCB2Bi Channel #0 1=Use DDCB2Bi Channel #1
9:	0=Do not perform power on up code CRC check 1=Perform power up code CRC check. If the CRC check did not match the one stored in the XROM configure block, blink a led at a rate of 2 second per blink.
12:10:	For General Purpose use
15: 14: 13: <b>[011]</b>	000 = 20-bit address, 8-bit EXT I/F 001 = 24-bit address, 8-bit EXT I/F 010 = 20-bit address, 16-bit EXT I/F 011 = 24-bit address, 16-bit EXT I/F(4MByte Flash) 1XX = OCM disabled, external parallel control bus (testbench)
16:	Open (Internal ROM on, and mapped to top 32K) Close (Internal ROM off-boot from ext ROM)
18: 17: <b>[01]</b>	00 = I2C to JTAG Bridge disabled 01 = ICD_SDA on VGA0..SDA, ICD_SCL on VGA0..SCL 10 = ICD_SDA on VGA1..SDA, ICD_SCL on VGA1..SCL 11 = I2C to JTAG bridge disabled, 5 JTAG signals mapped to AVS Pins
19:	Open/0 (External Oscillator on TCLK pin) Close/1 (XTAL and Internal Oscillator)
20:	I2C to JTAG pull down

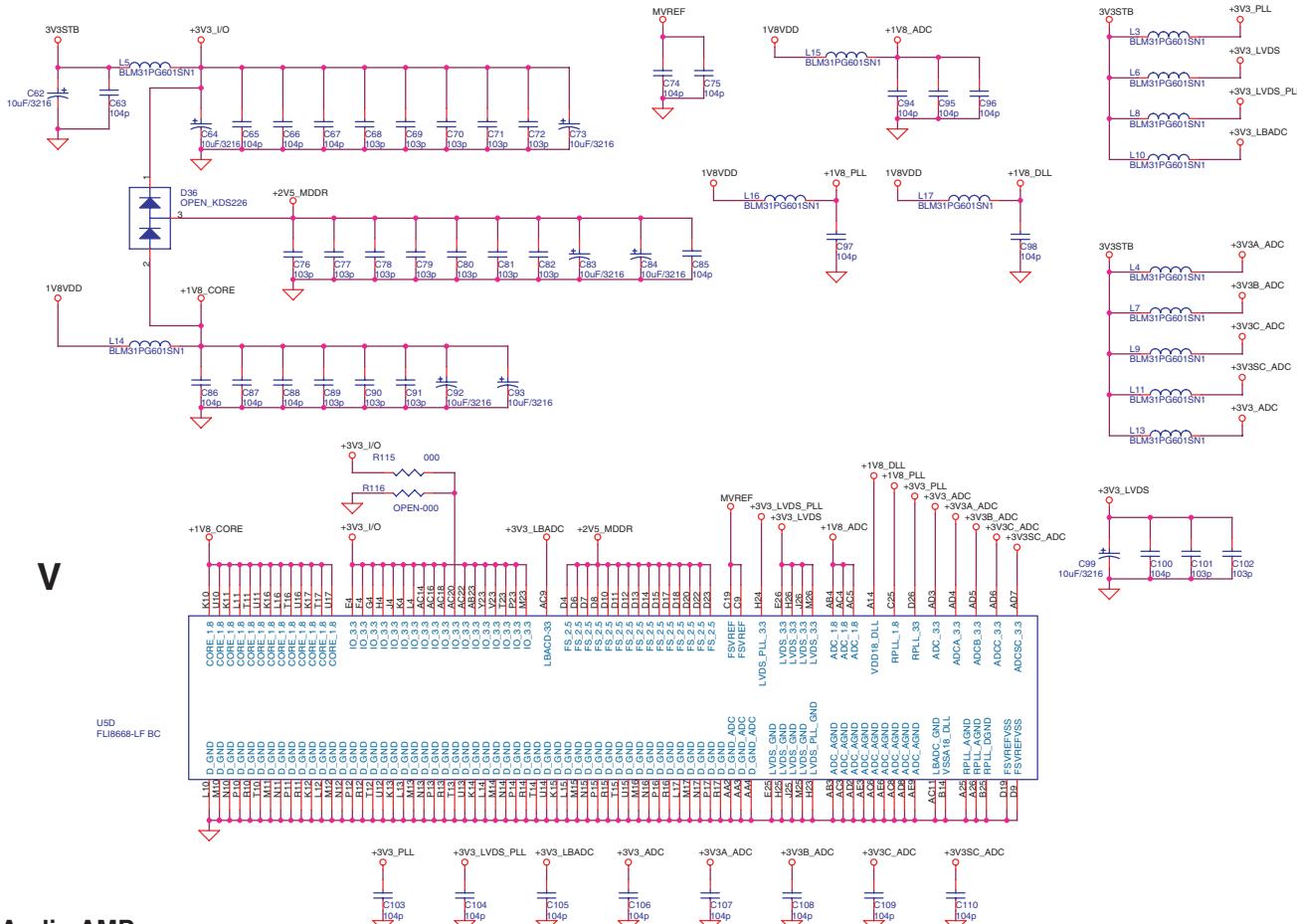
D08

D08

### **3.20.11 MAIN ASSY (6/18)**

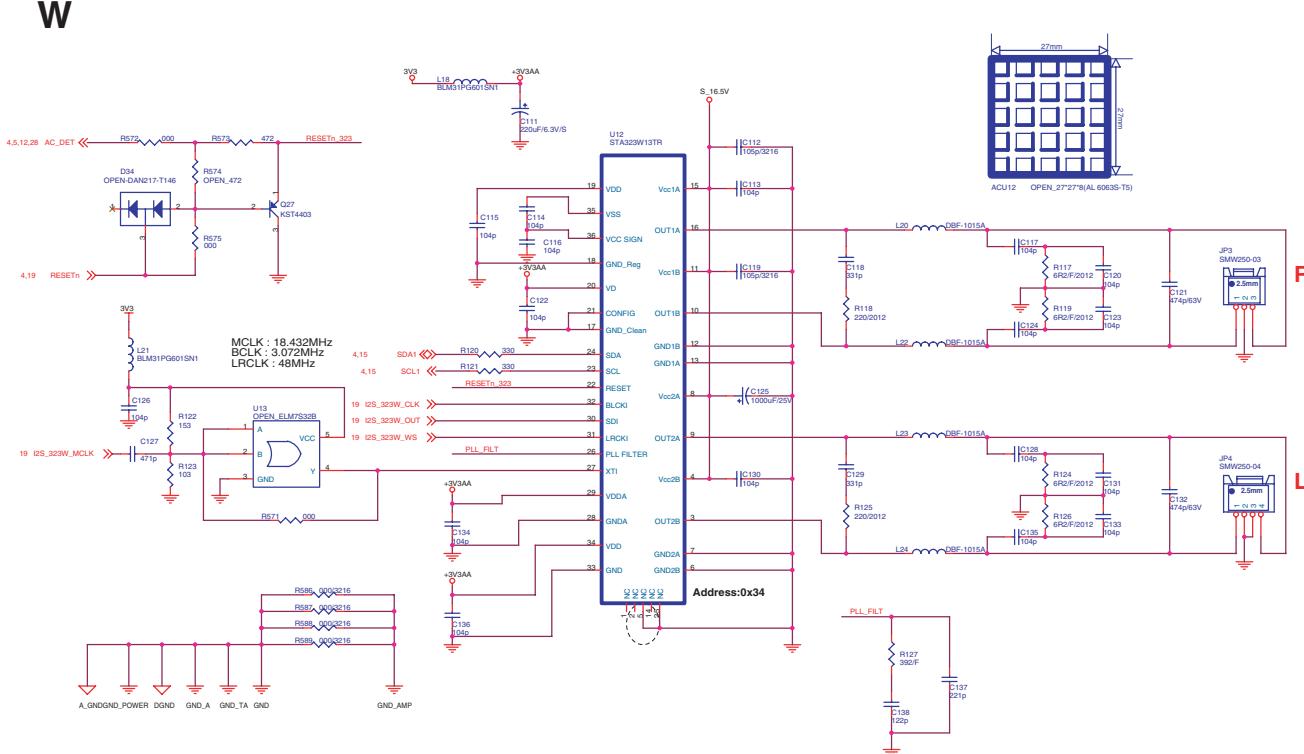
- FLI8668 Power

A



- **Audio AMP**

D



F

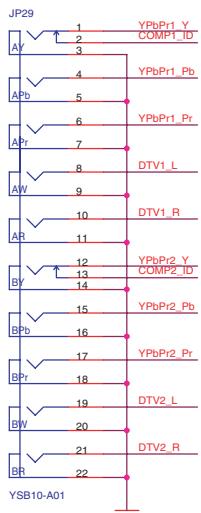
D09

D09

## 3.20.12 MAIN ASSY (7/18)

### • Component Input

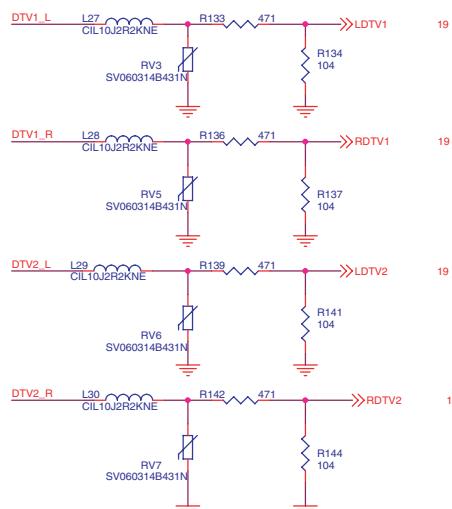
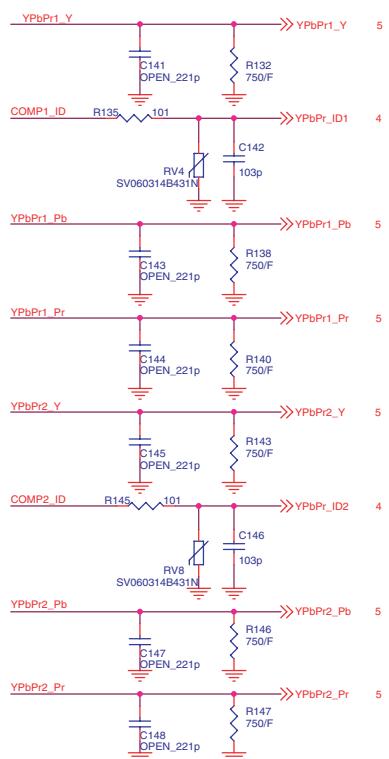
**X**



5 6

7

8



A

B

C

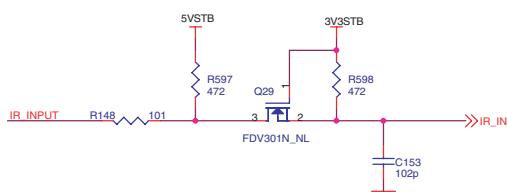
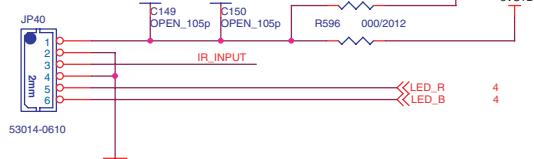
D

E

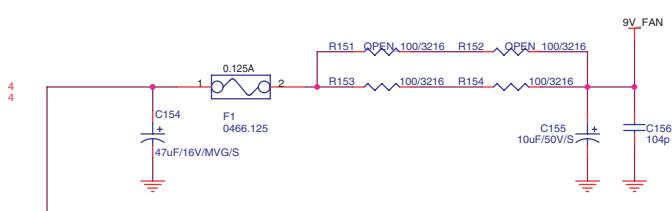
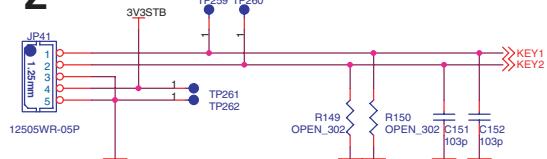
F

### • Interface

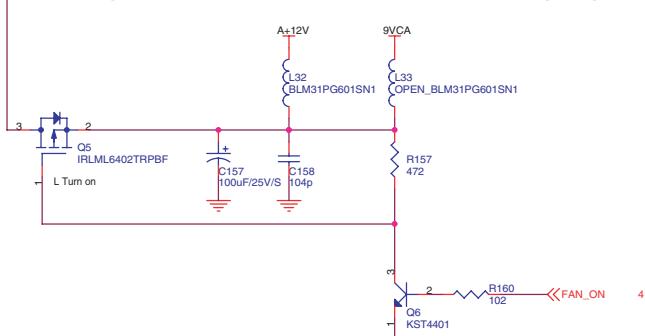
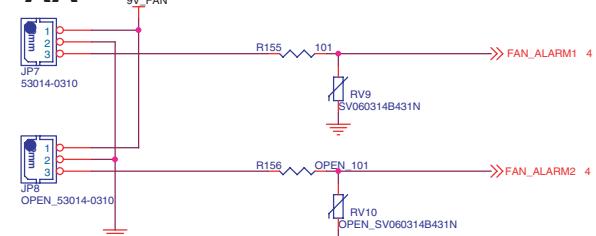
**Y**



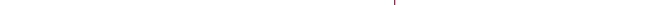
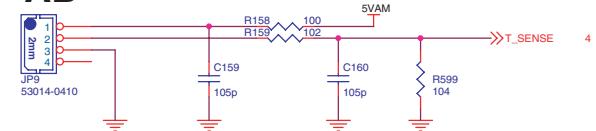
**Z**



**AA**



**AB**



**D10**

**D10**

5

6

7

105

PDP-5016HD

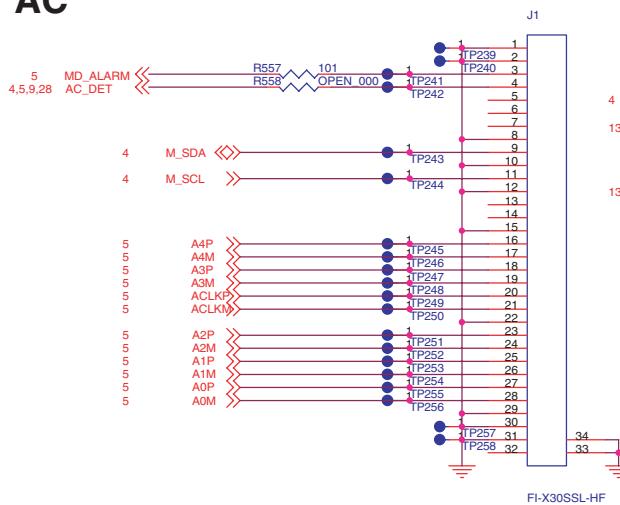
8

### 3.20.13 MAIN ASSY (8/18)

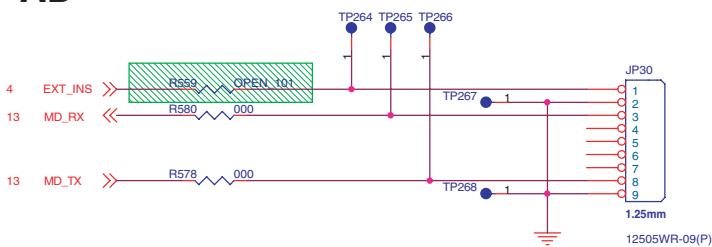
- LVDS & Module interface

A

**AC**



**AD**



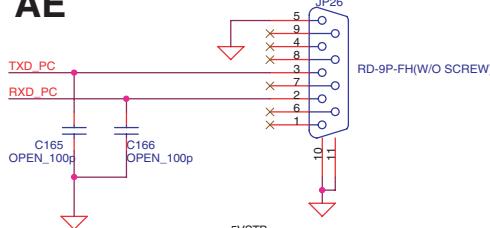
B

- UART

**UART**

C

**AE**

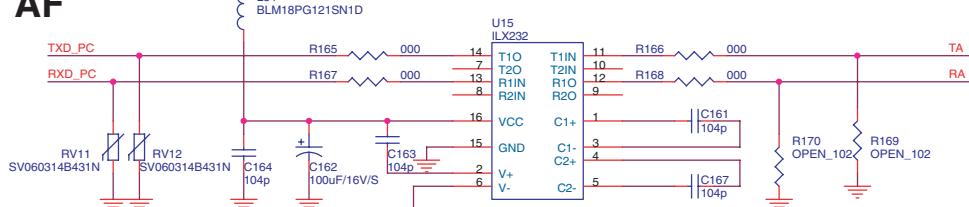


H	2G	CORTEZ(Normal)
L	1G	ZORAN

H	2G	CORTEZ/ZORAN
L	1G	PDP MODULE

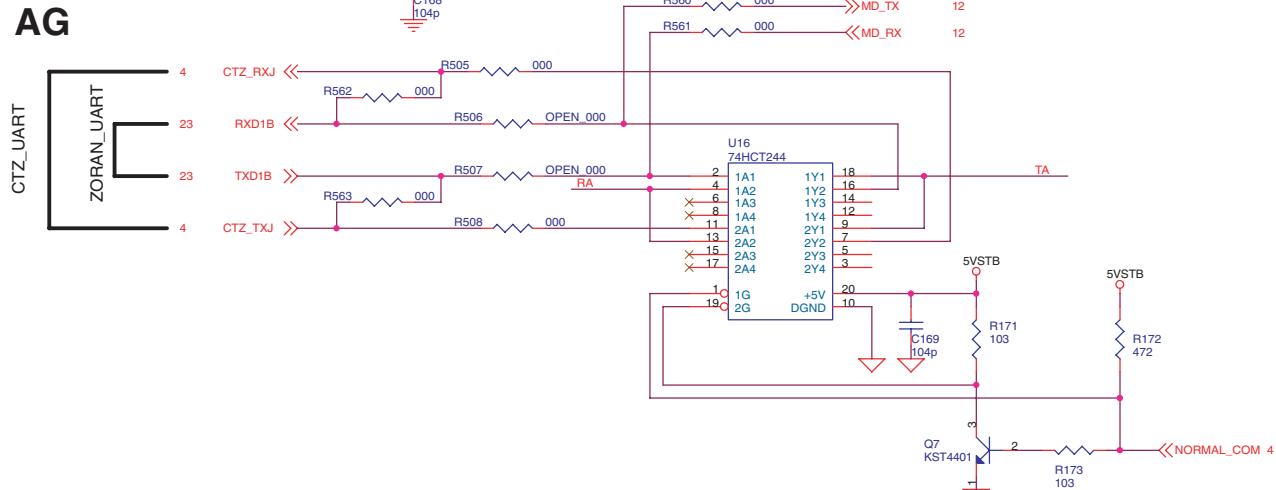
D

**AF**



E

**AG**



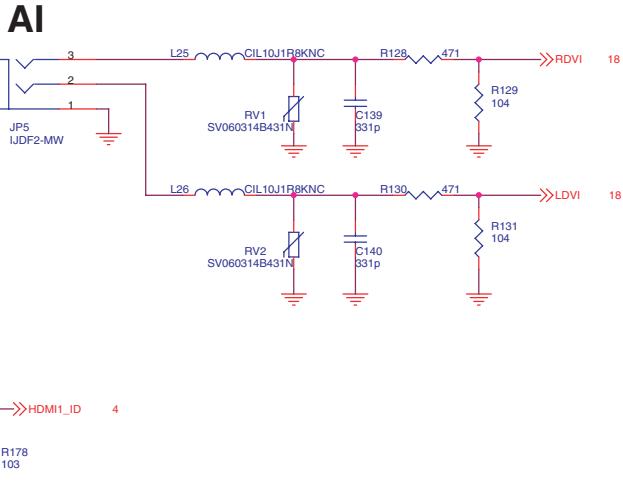
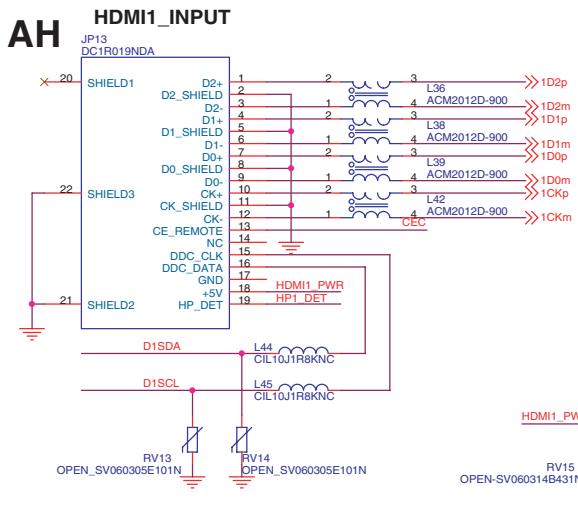
F

**D11**

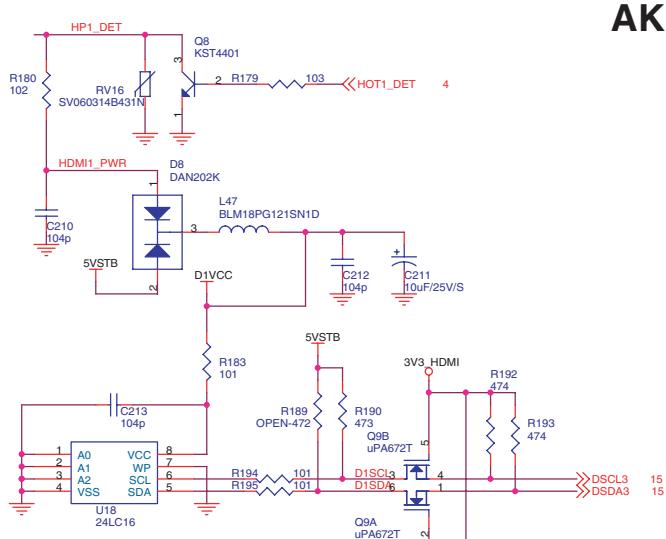
**D11**

### 3.20.14 MAIN ASSY (9/18)

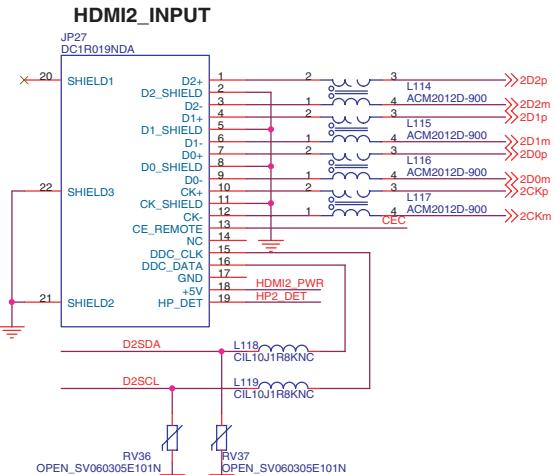
#### • HDMI Input



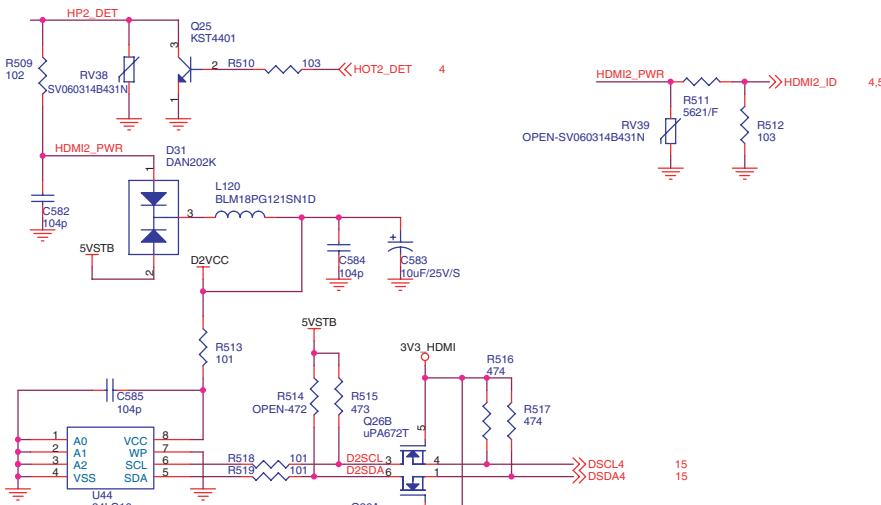
**AJ**



**AK**



**AL**



**D12**

**D12**

### **3.20.15 MAIN ASSY (10/18)**

- HDMI Receiver

A

AM

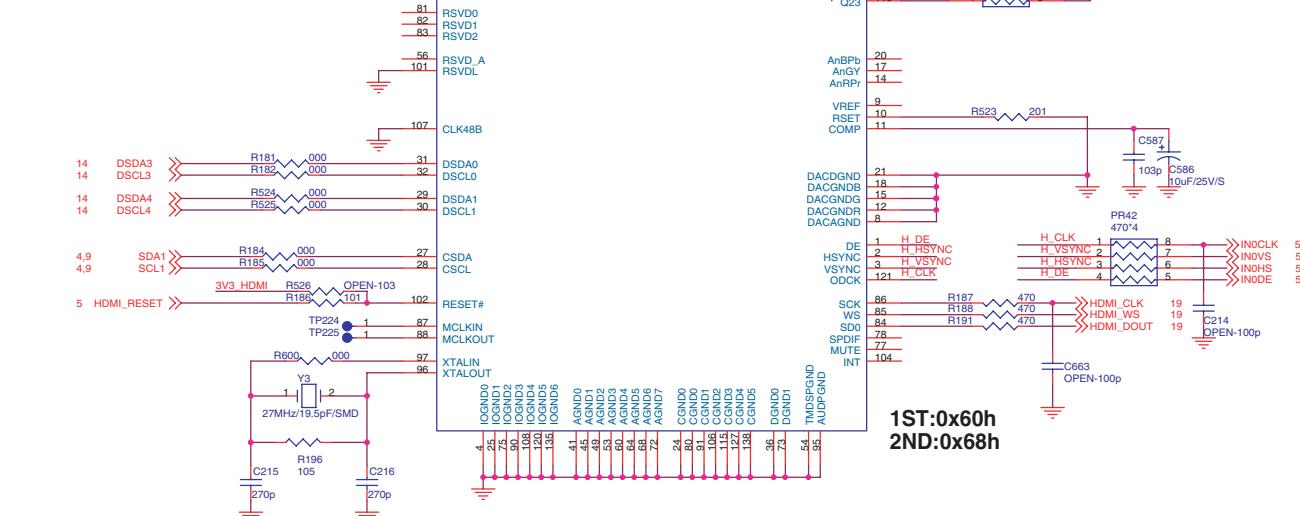


B

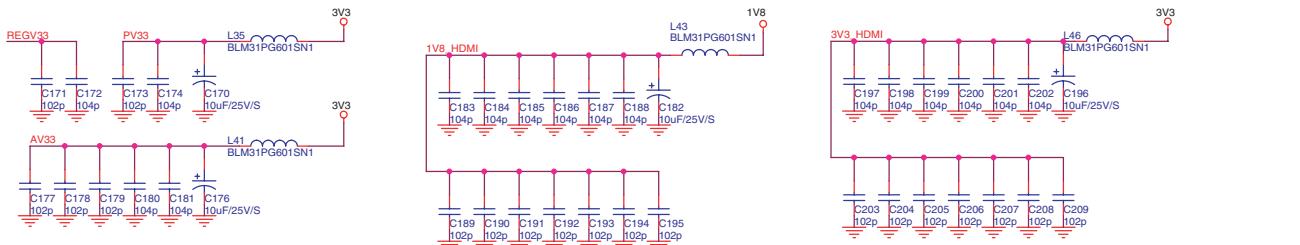
#### HDMI1 INPUT



C



D



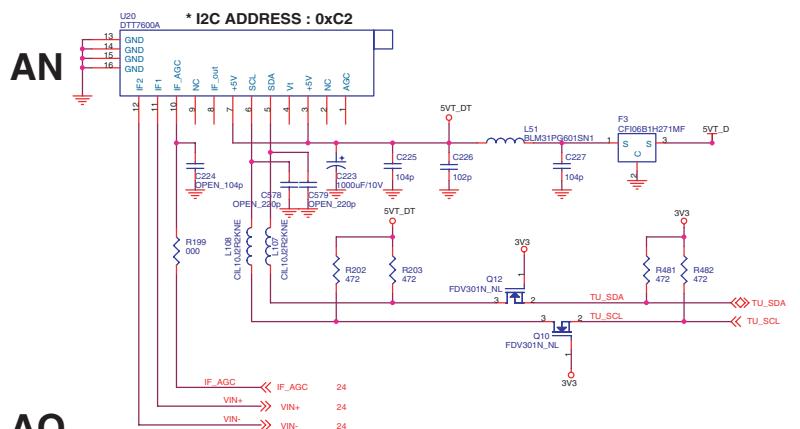
5

D13

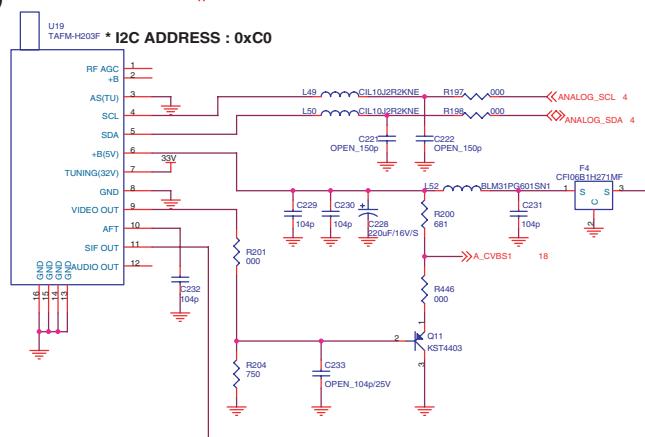
D13

**3.20.16 MAIN ASSY (11/18)**

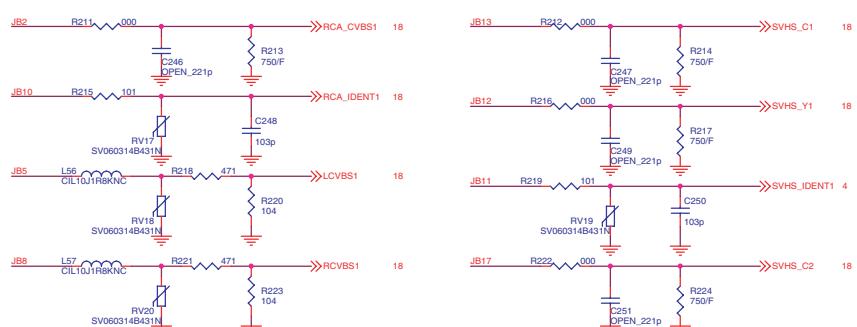
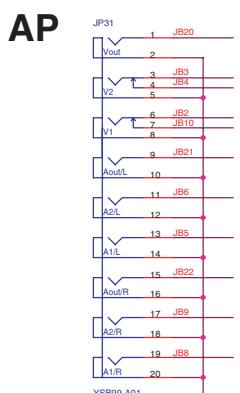
- Tuner



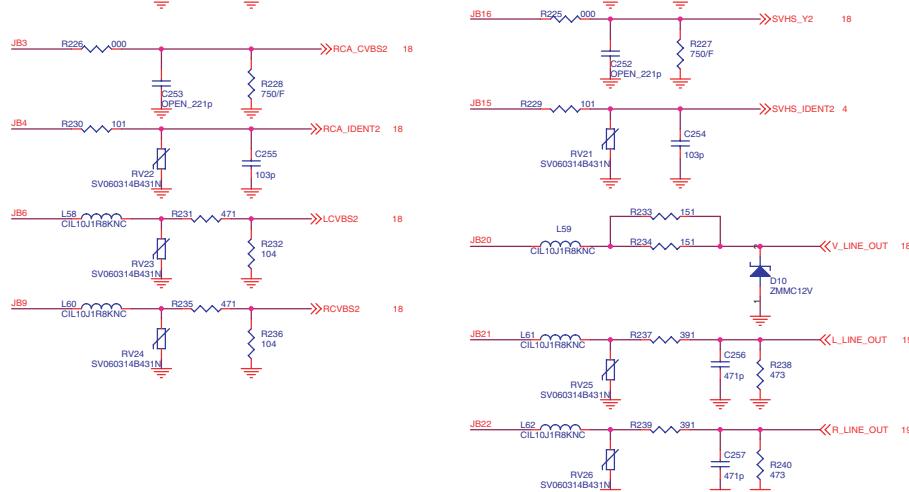
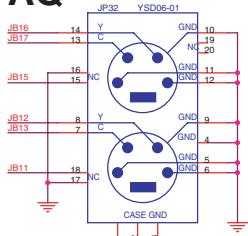
AO



- Analog Input



AQ



D14

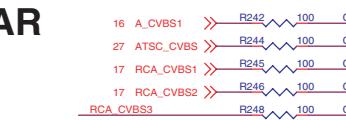
D14

## 3.20.17 MAIN ASSY (12/18)

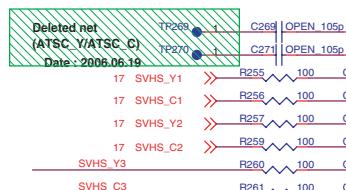
### • CXA2069

A

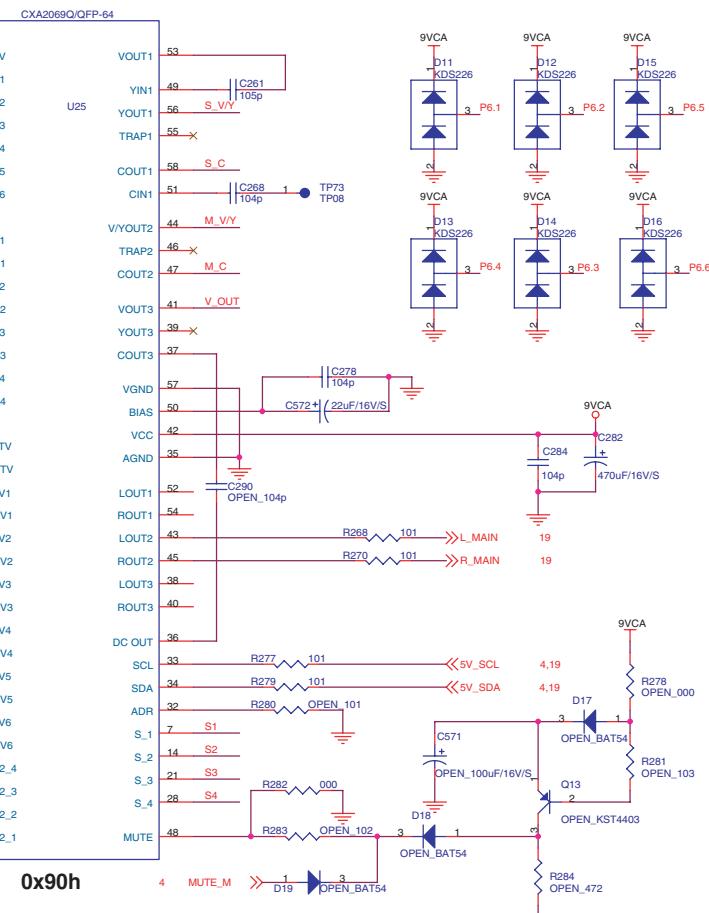
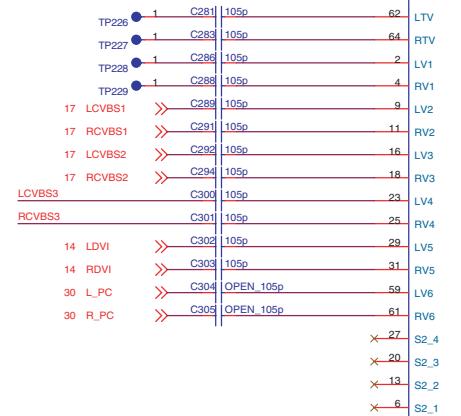
AR



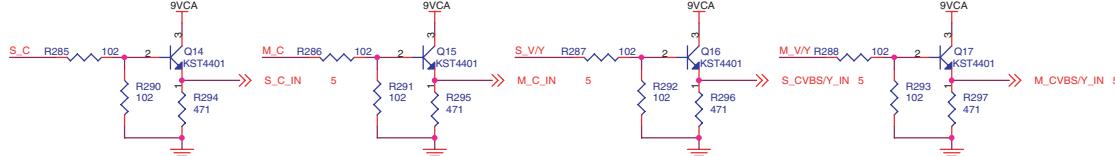
B



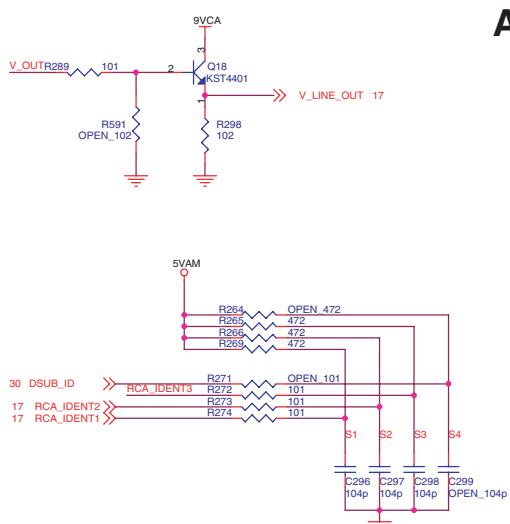
C



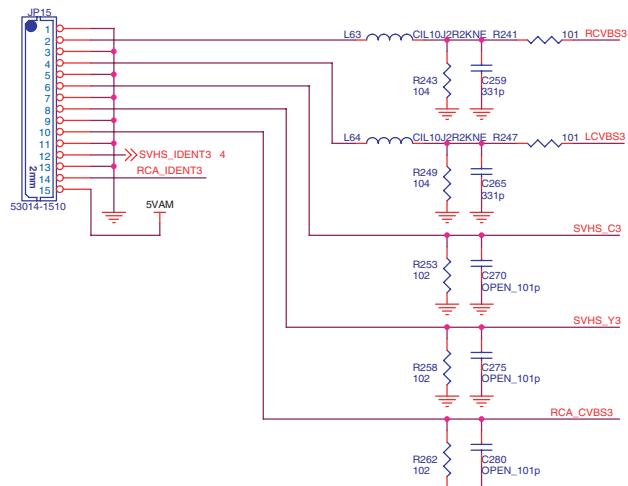
D



E



AS



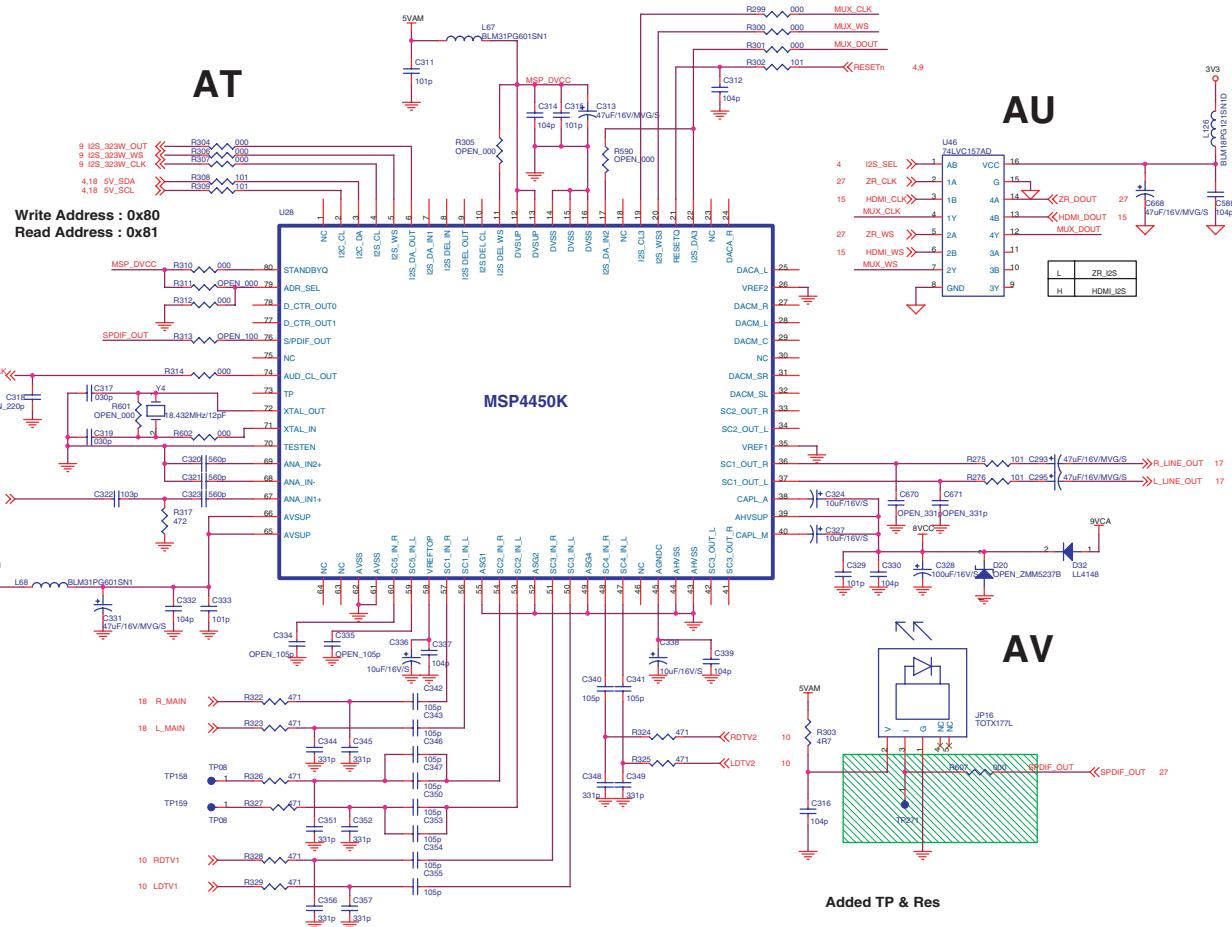
F

D15

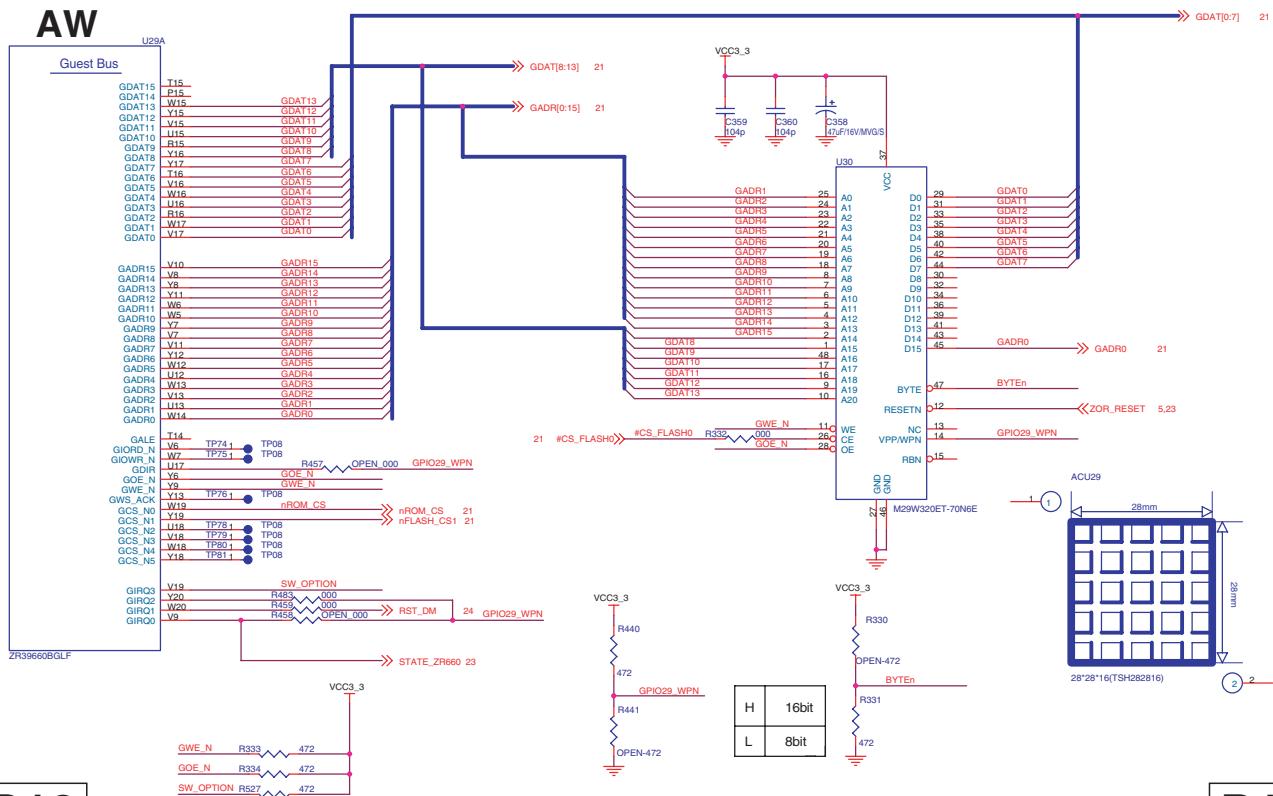
D15

### **3.20.18 MAIN ASSY (13/18)**

- MSP4450K



- HD660 Flash



D16

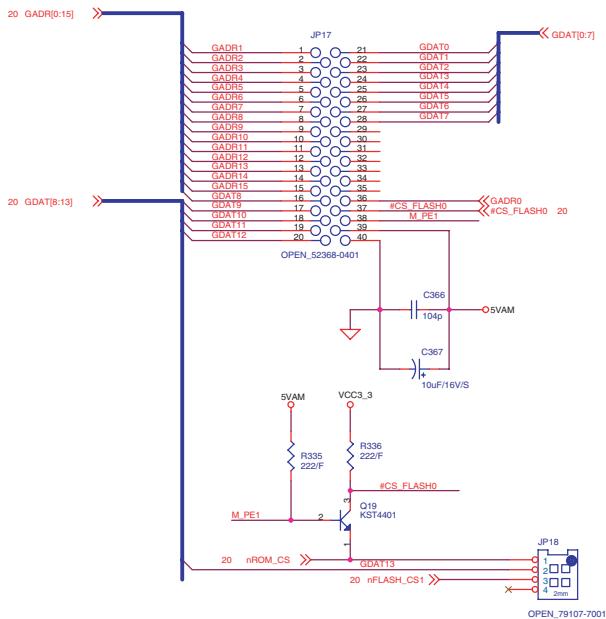
D16

### **3.20.19 MAIN ASSY (14/18)**

- HD660 ROM CON

A

AX

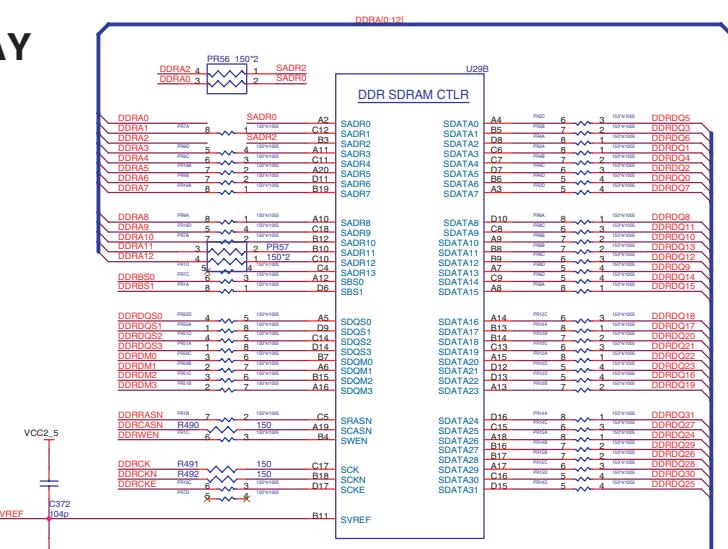


C

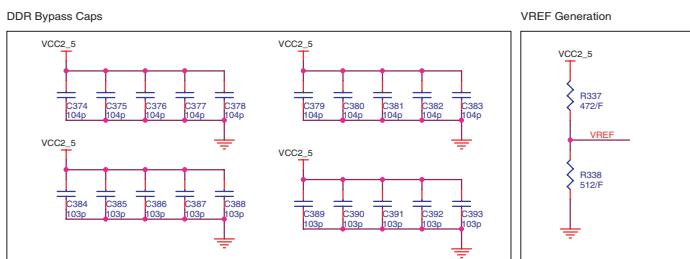
- HD660 DDR SDRAM

D

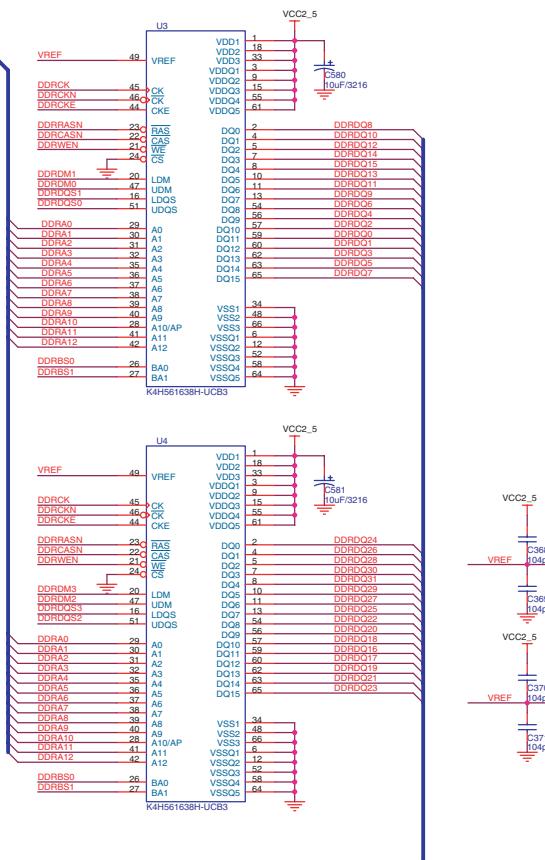
AY



F



4



D17

112

PDP-5016HD

1

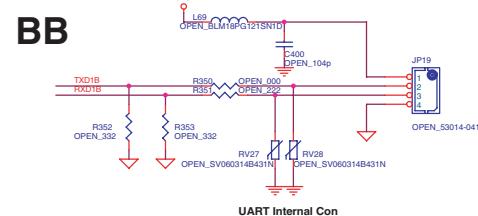
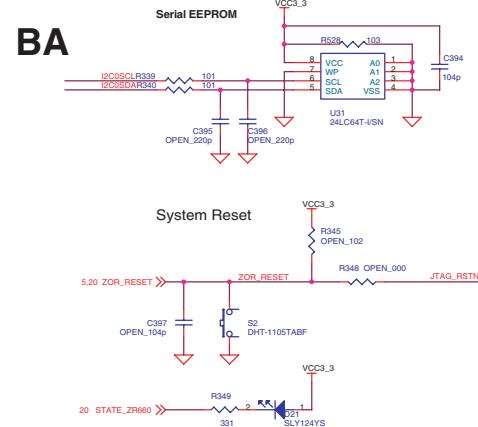
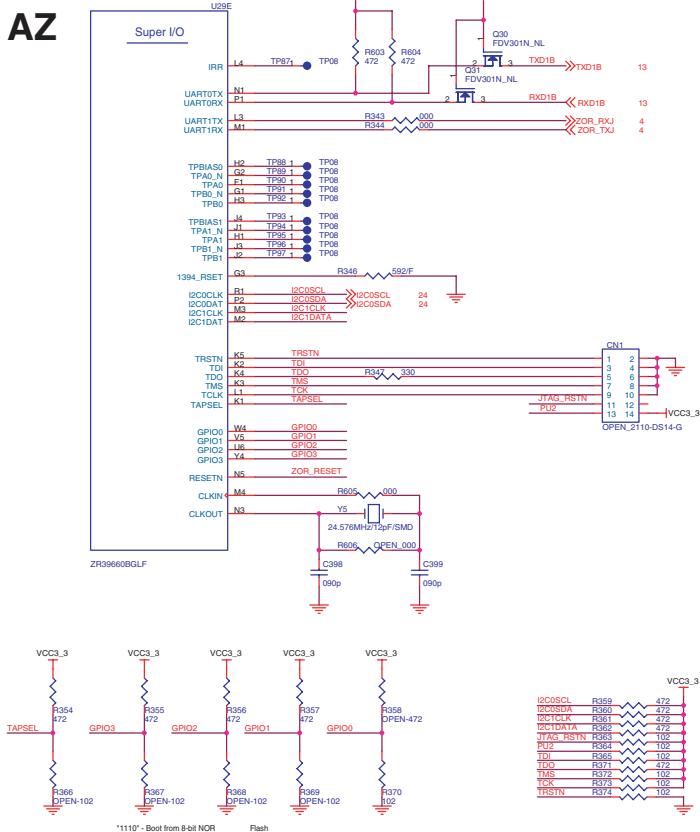
2

4

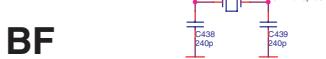
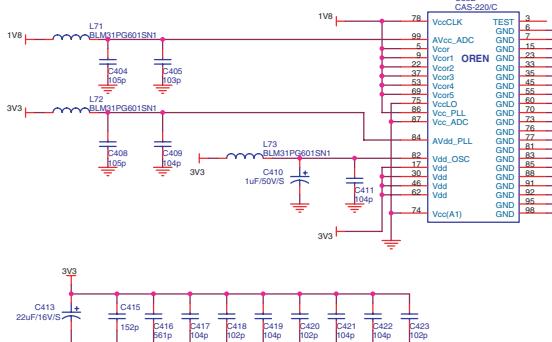
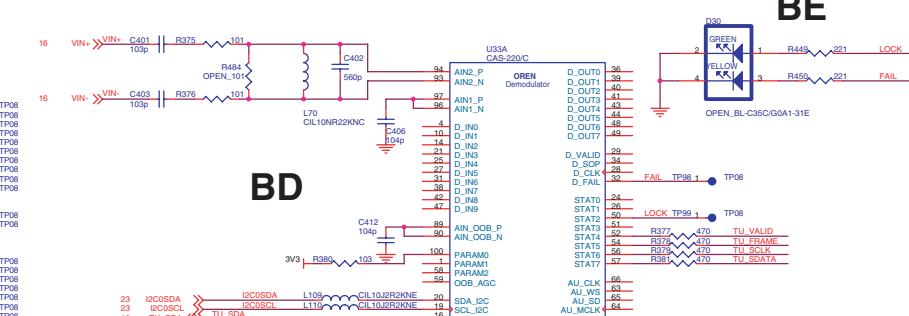
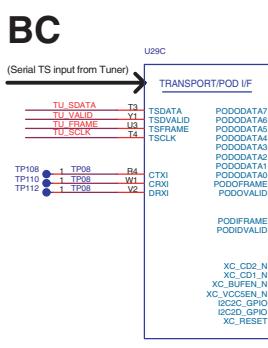
4

### **3.20.20 MAIN ASSY (15/18)**

- HD660 SIO I/F



- ATSC Demodulator



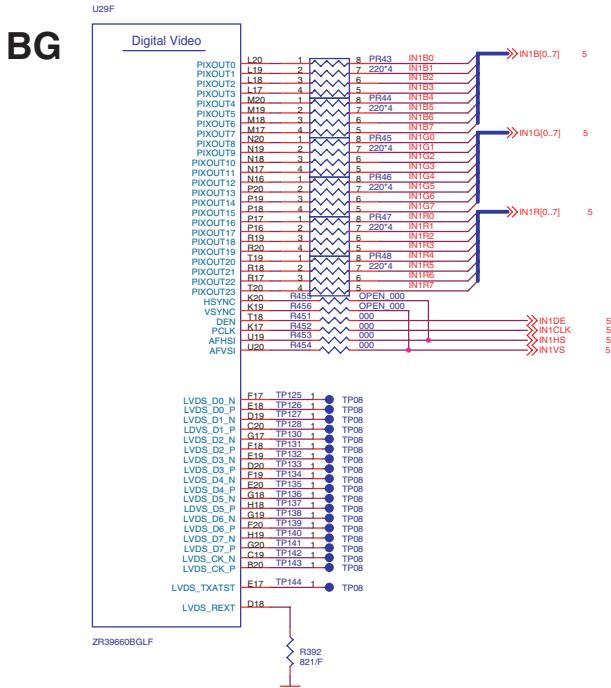
D18

D18

### **3.20.21 MAIN ASSY (16/18)**

- Digital Video I/F

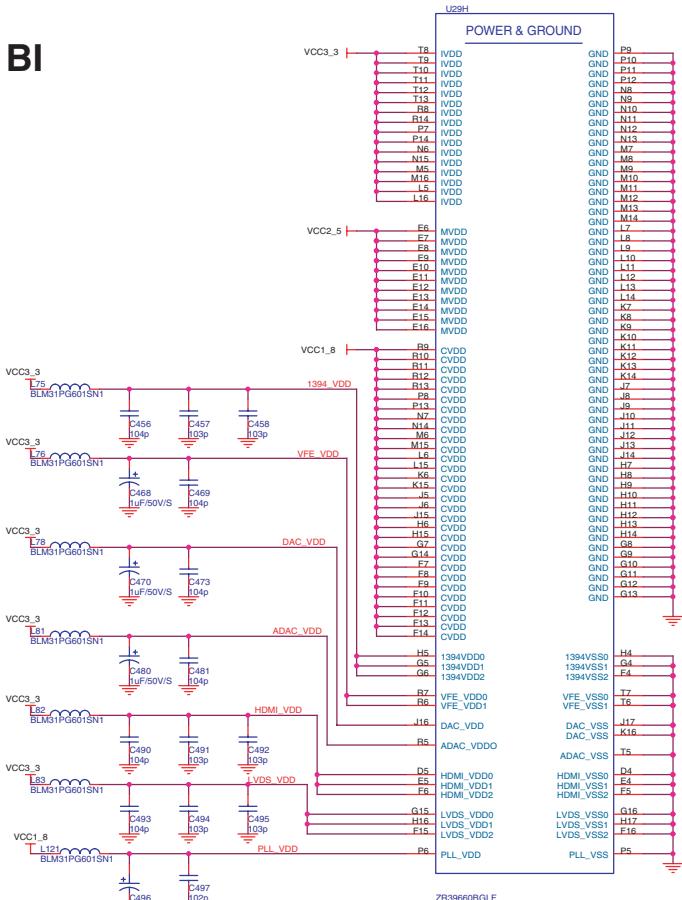
A



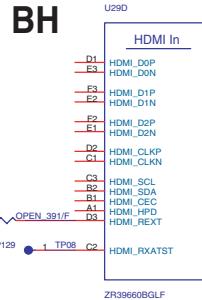
C

- HD660 Power

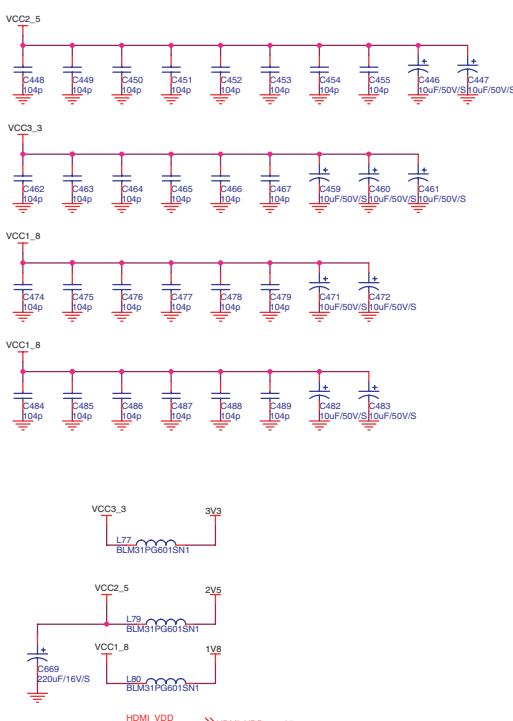
BI



F



ZR39660BGLF



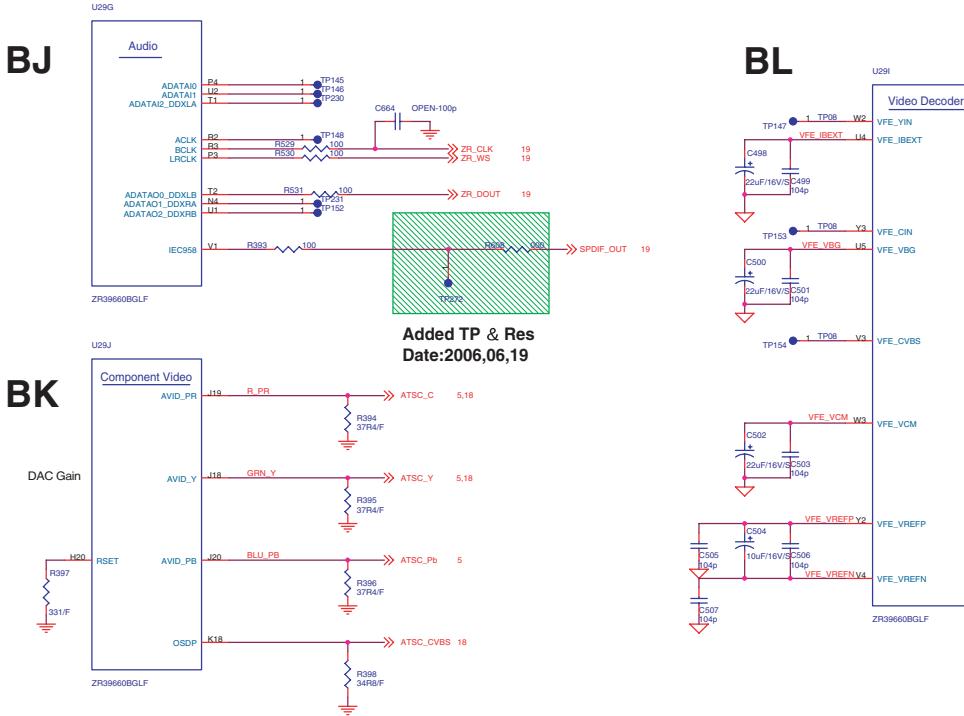
E

D19

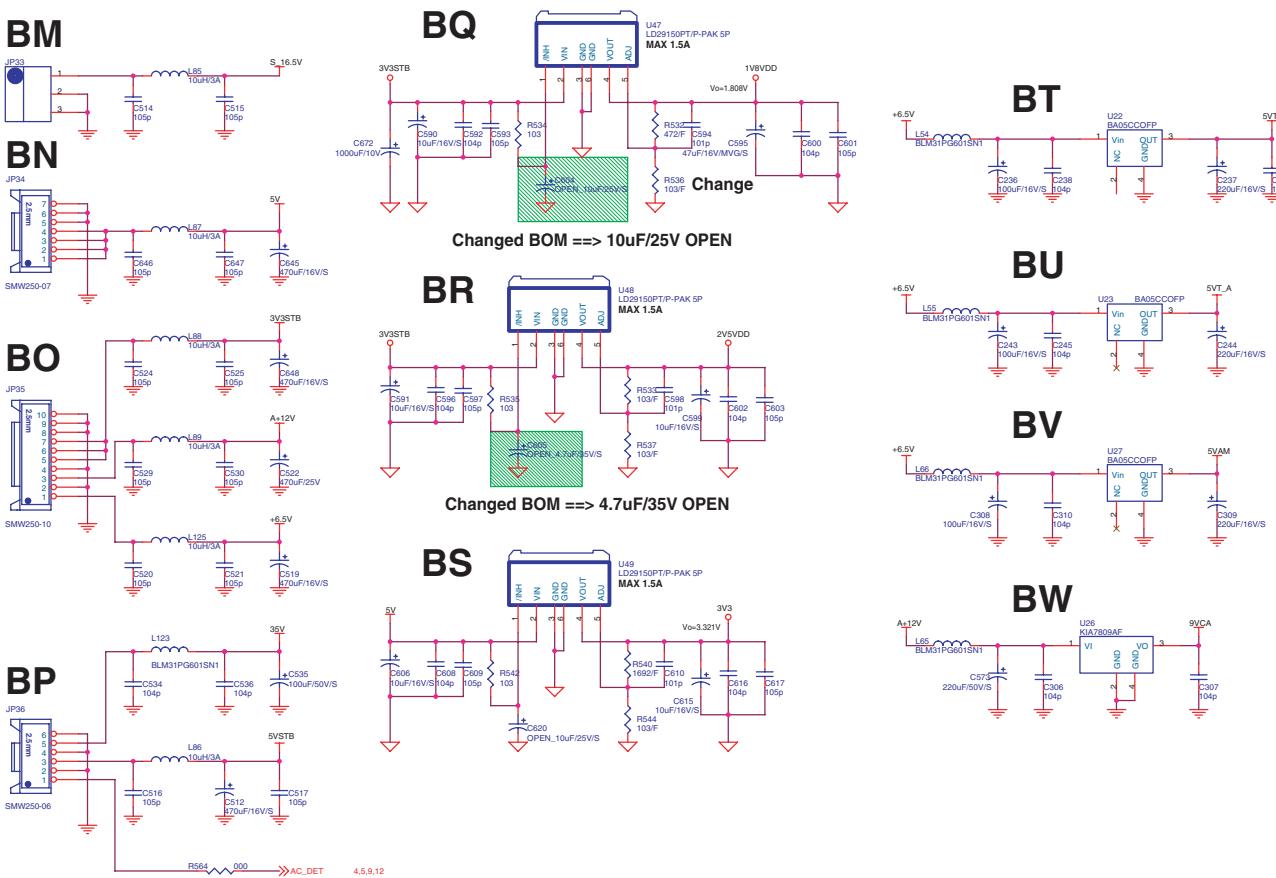
D19

**3.20.22 MAIN ASSY (17/18)**

- Video/Audio IF



- Power1



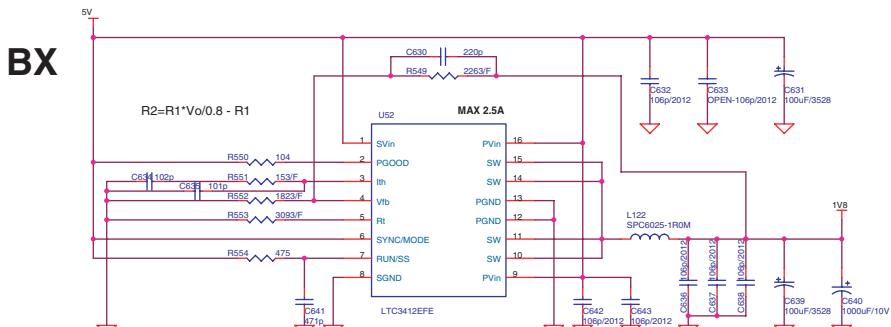
D20

D20

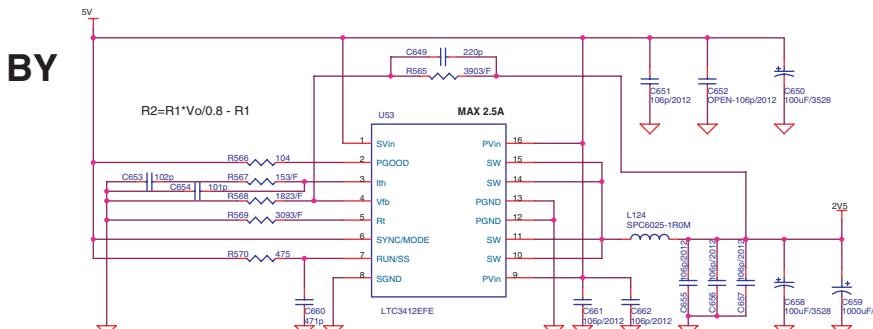
### **3.20.23 MAIN ASSY (18/18)**

- Power2

A

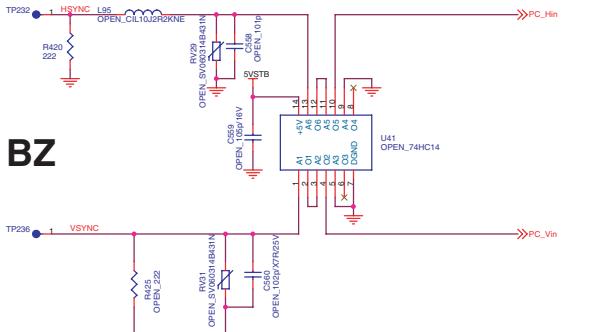


B



- D-Sub Input

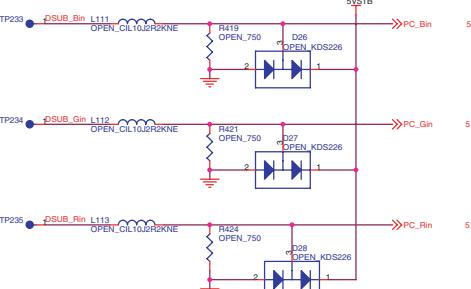
1



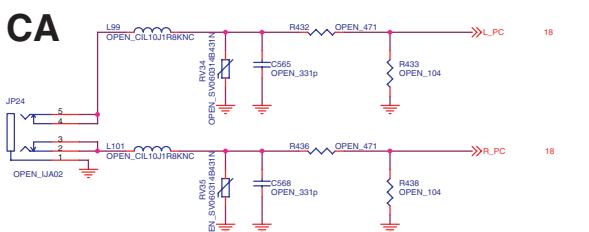
D



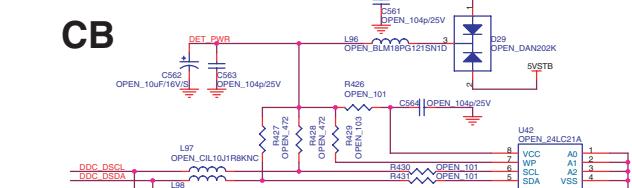
D



□

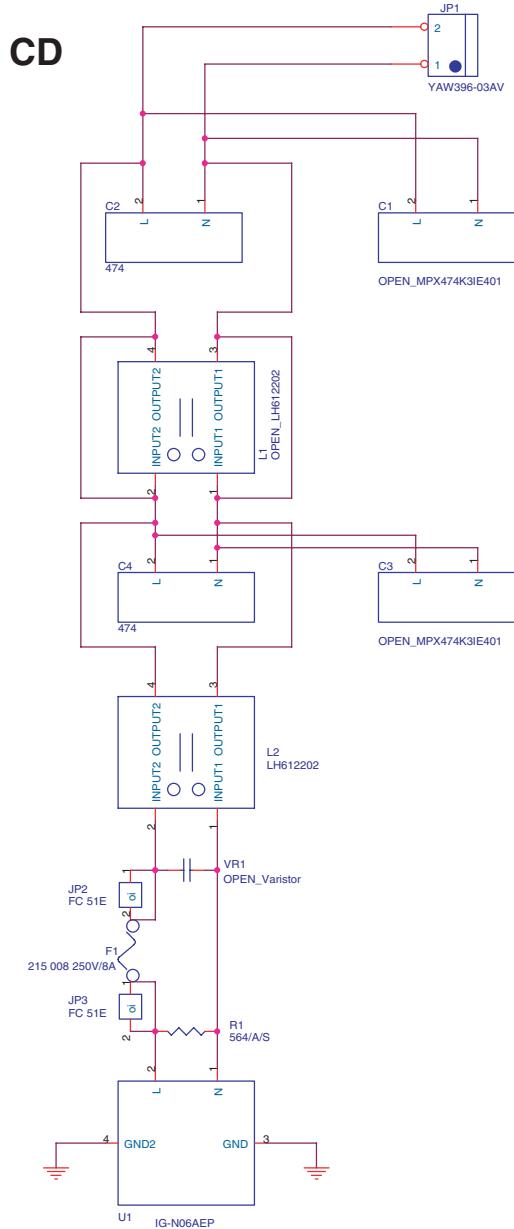


5



1

### 3.20.24 SUB EMI FILTER ASSY



D22

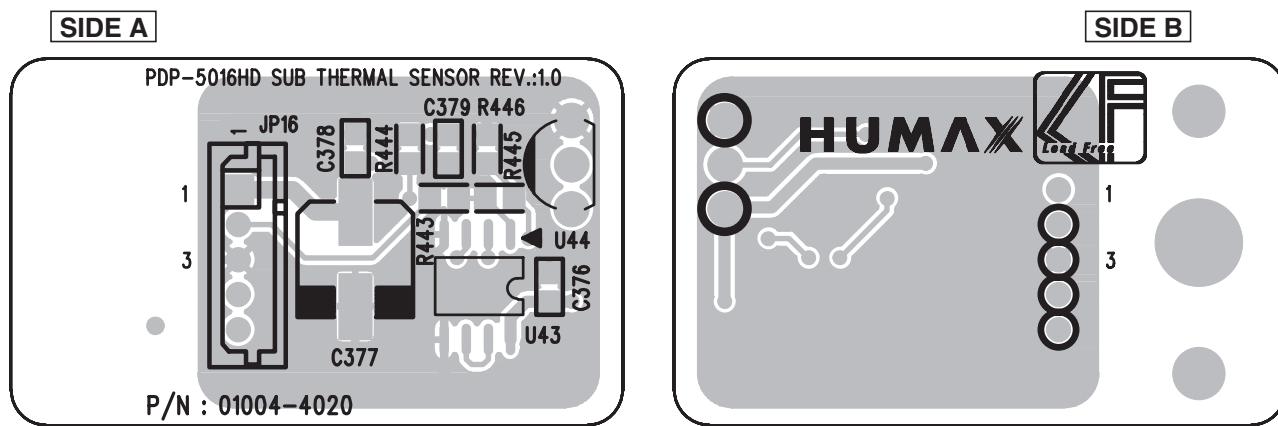
D22

# 4. PCB CONNECTION DIAGRAM

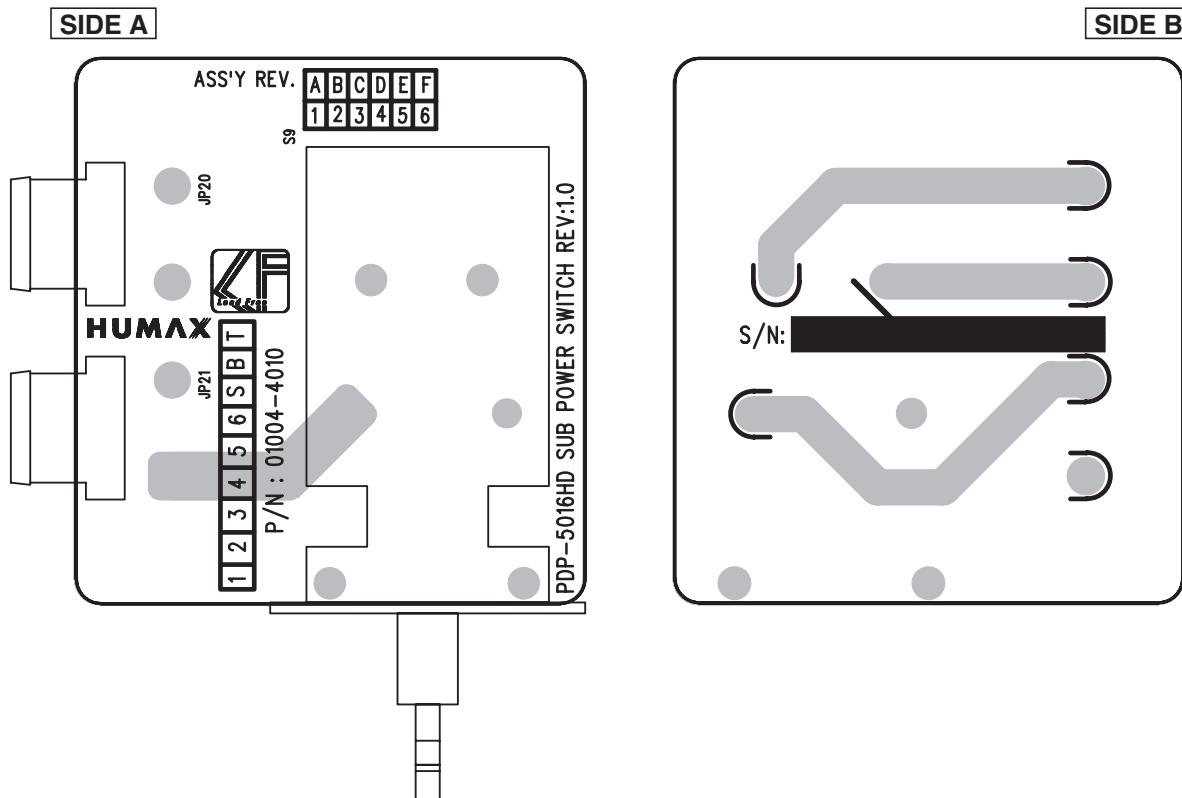
## 4.1 PCB DIAGRAM (PDP-5016HD)

### 4.1.1 SUB THERMAL SENSOR, SUB POWER SWITCH AND SUB KEY ASSYS

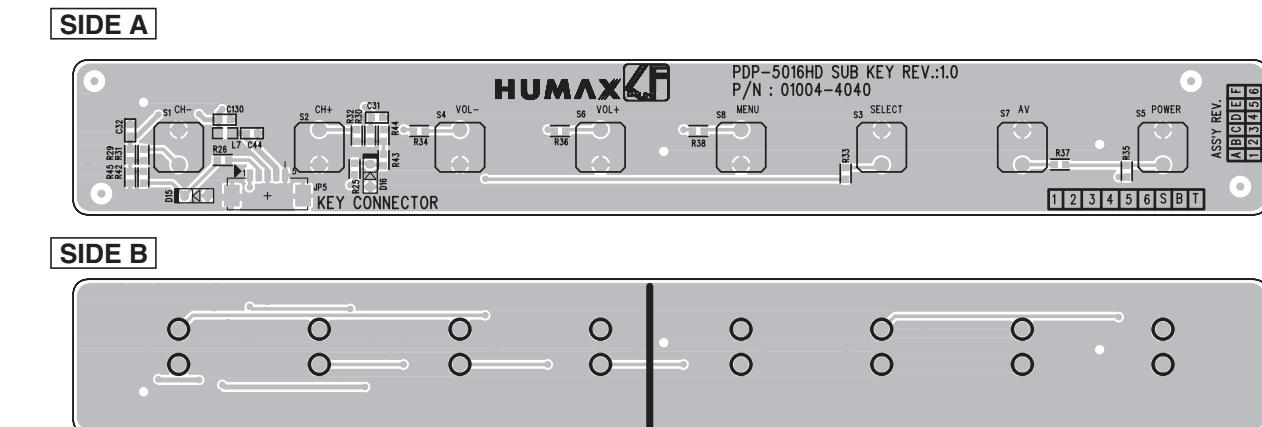
#### • SUB THERMAL SENSOR ASSY



#### • SUB POWER SWITCH ASSY



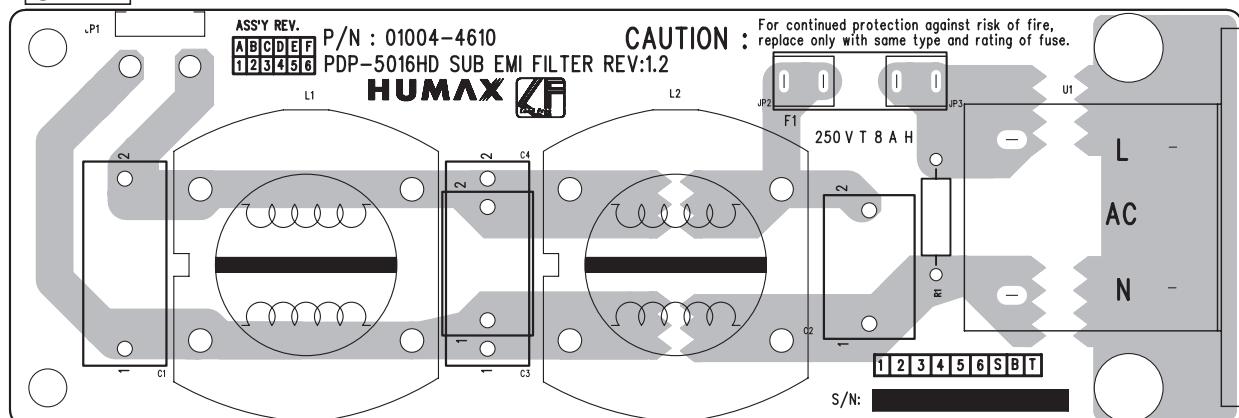
#### • SUB KEY ASSY



■ 5 ■ 6 ■ 7 ■ 8  
**4.1.2 SUB EMI FILTER , SUB IR&LED AND SUB SIDE AV ASSYS**

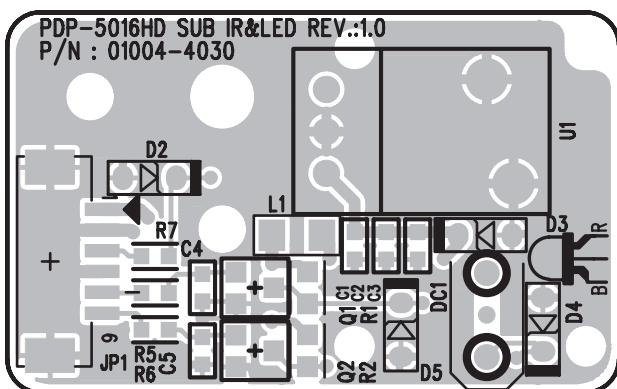
• **SUB EMI FILTER ASSY**

**SIDE A**

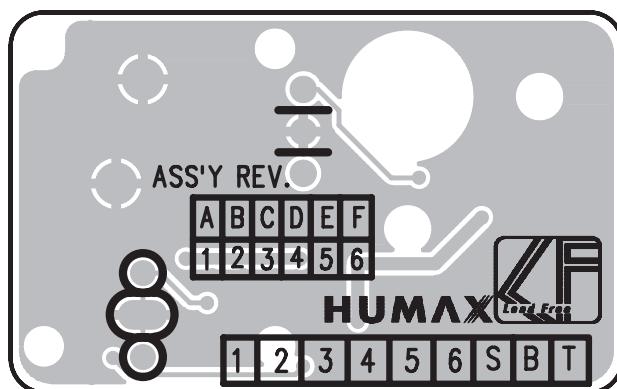


• **SUB IR&LED ASSY (PDP-5016HD)**

**SIDE A**

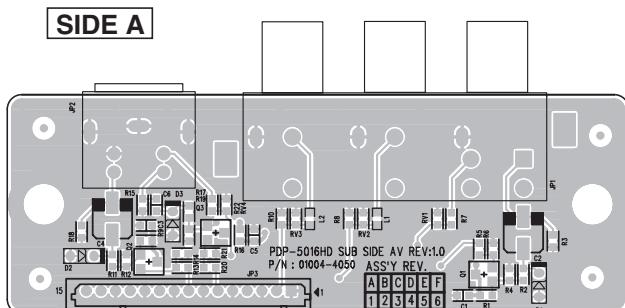


**SIDE B**

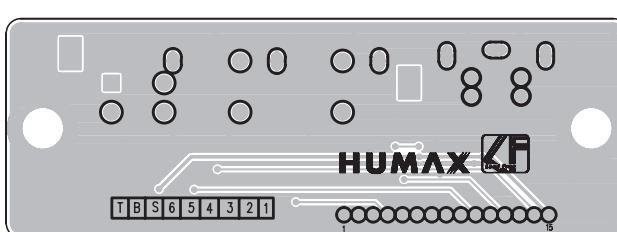


• **SUB SIDE AV ASSY (PDP-5016HD)**

**SIDE A**

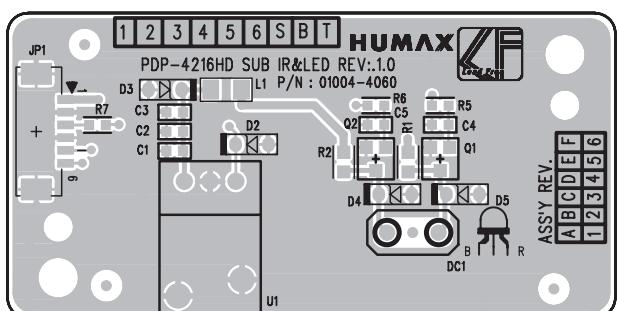


**SIDE B**

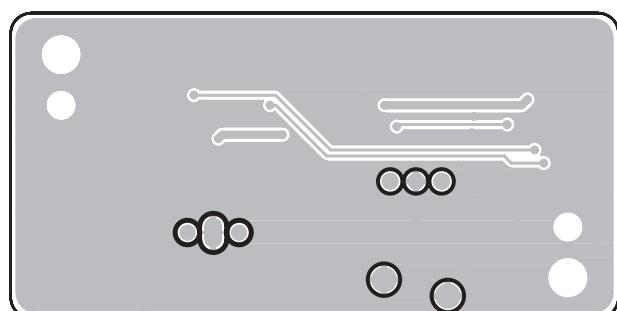


• **SUB IR&LED ASSY (PDP-4216HD)**

**SIDE A**



**SIDE B**



### **4.1.3 MAIN ASSY**

- MAIN ASSY

SIDE A

D19  
T04  
U29

T04

U29

A

B

C

1

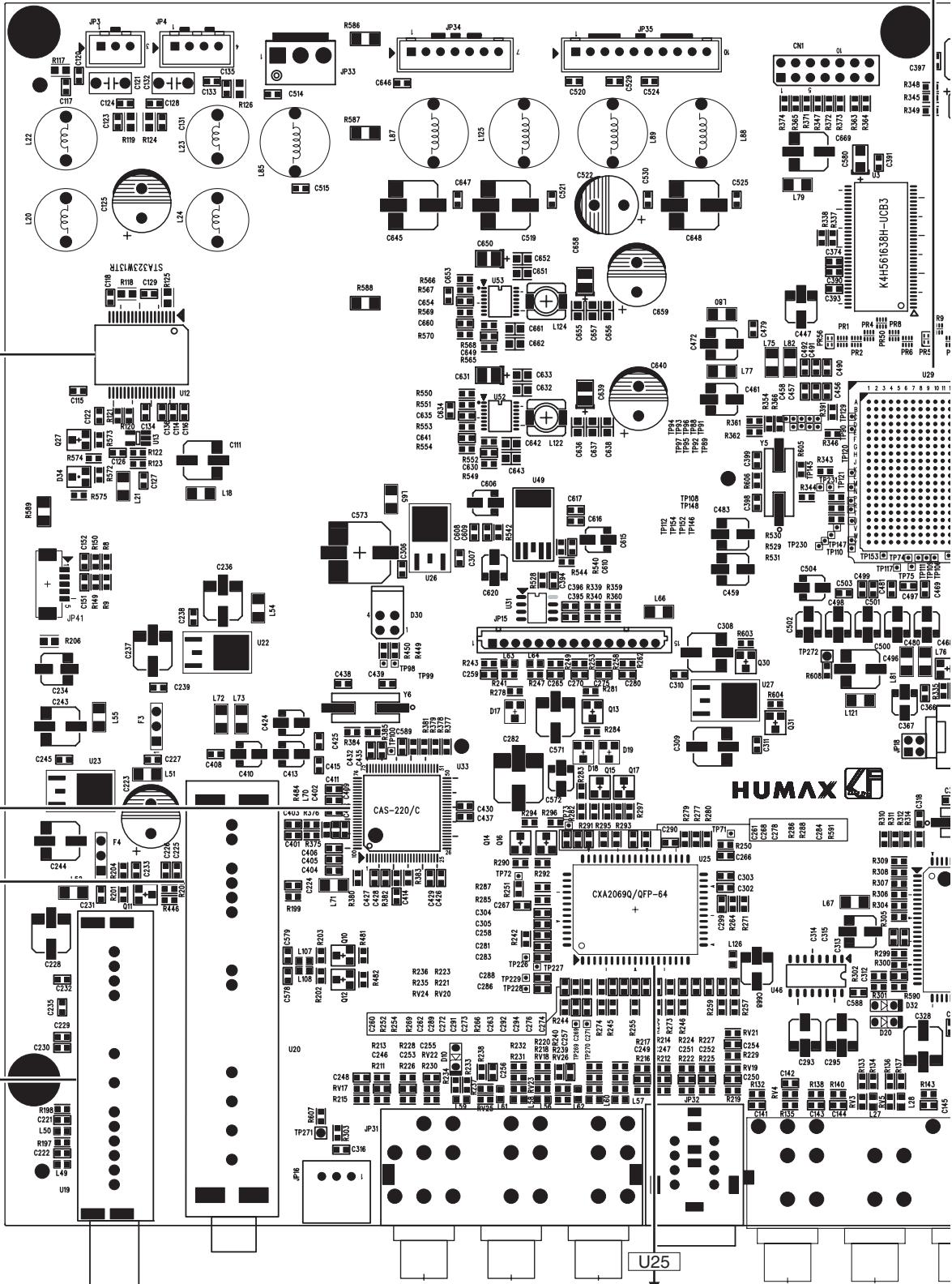
□

- D09 -W**
- T09**
- T10**
- T11**
- T12**
- T13**
- T14**

**D18 -BD**  
**T04**

**D14 -AN**  
**T04**

D14 -AO  
T06



D15-AR

**T06 T07 T08 T09 T10**

**D19 -BG D20 -BJ**

T04 T14

SIDE A

The diagram shows the following connections:

- U28** connects to the **D16-AT** block.
- D16-AT** contains components **T09, T10, T11, T12, T13, T14**.
- JPI3** connects to the **D12-AH** block.
- D12-AH** contains component **T02**.
- JFZ1** connects to the **D12-AK** block.
- D12-AK** contains component **T03**.

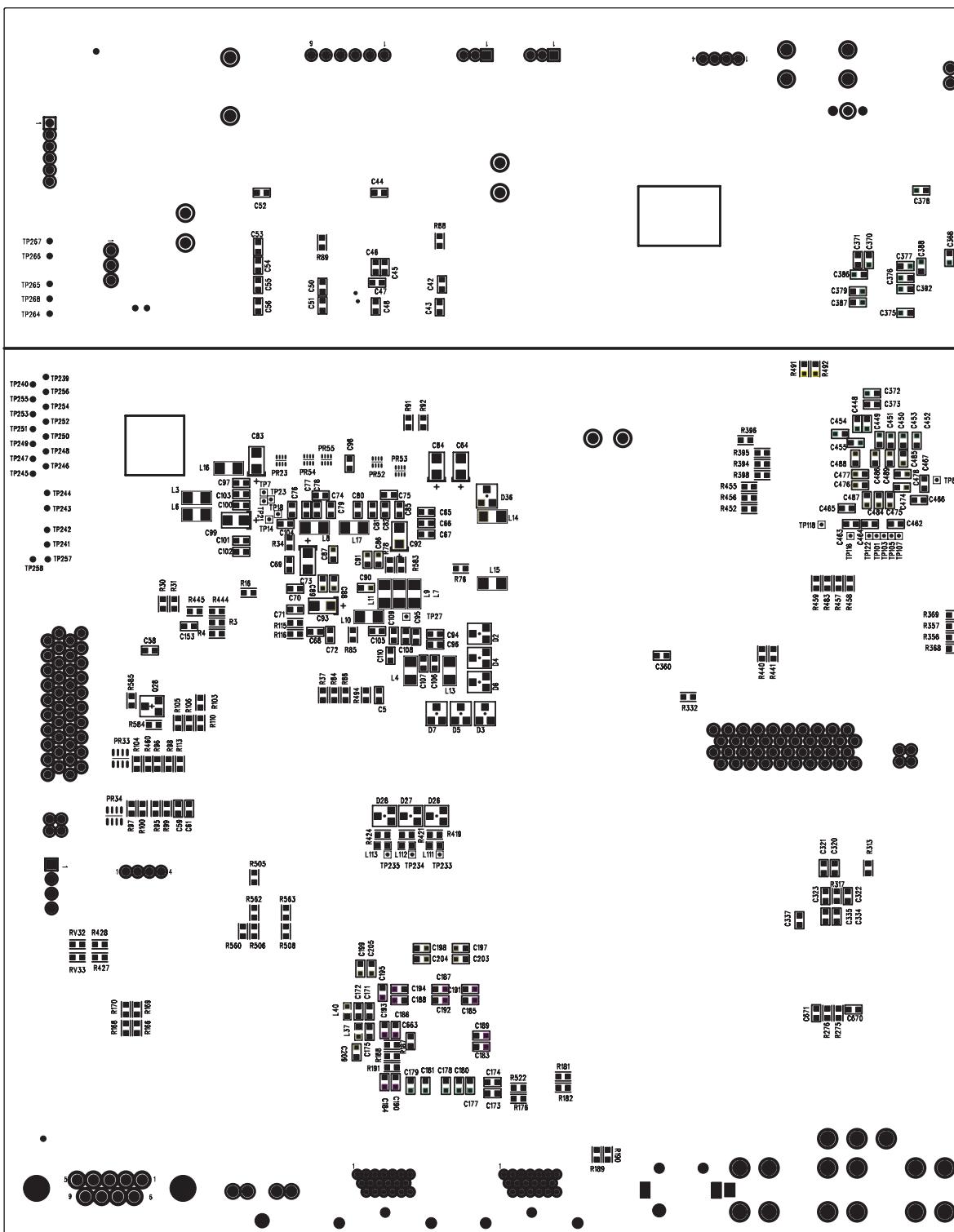
0 T12 T13 T14

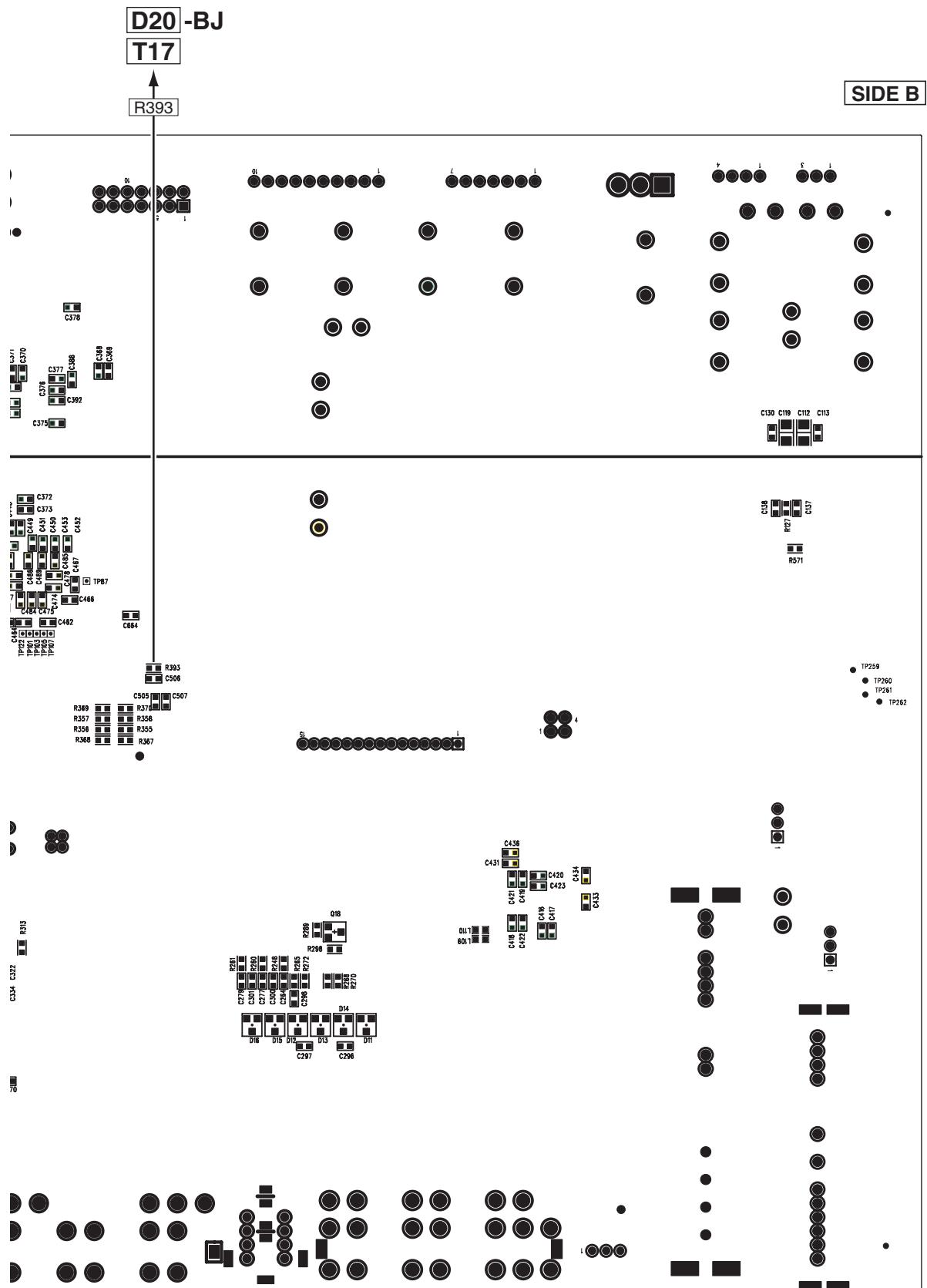
**D12 -AH  
T02**

**D12-AK**  
**T03**

- **MAIN ASSY**

SIDE B





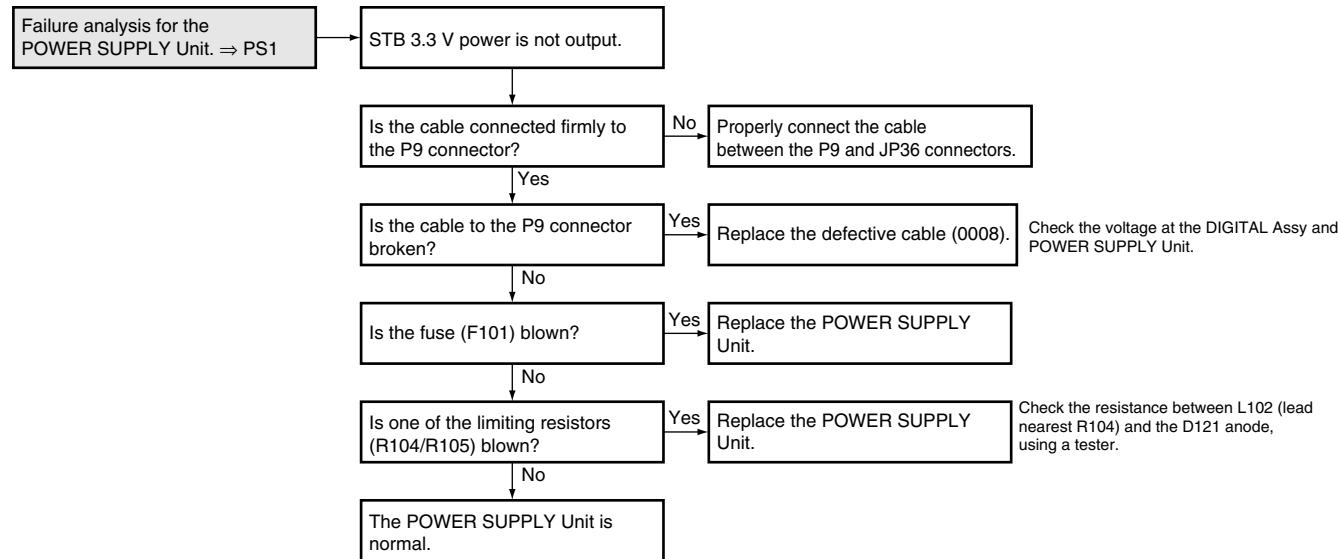
# 5. DIAGNOSIS

## 5.1 TROUBLESHOOTING

### 5.1.1 FLOWCHART OF FAILURE ANALYSIS FOR THE POWER SUPPLY UNIT

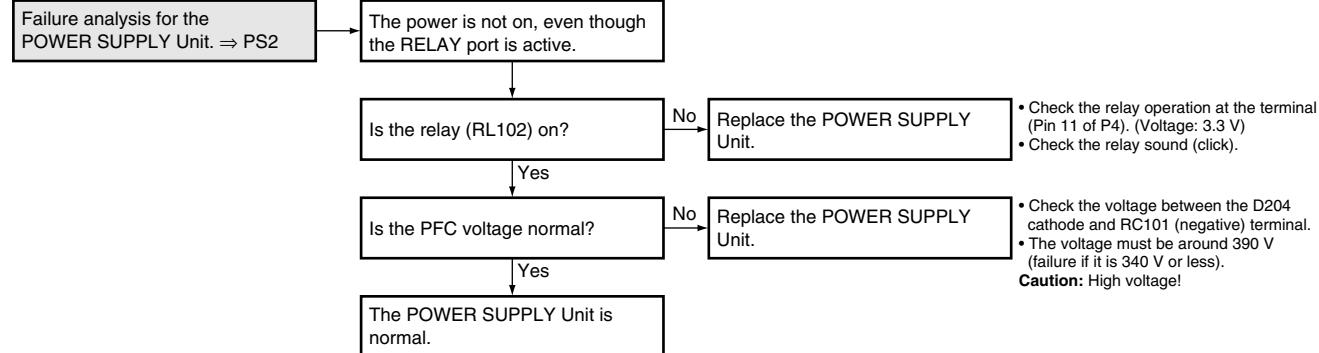
A

#### Flowchart of Failure Analysis for The POWER SUPPLY Unit

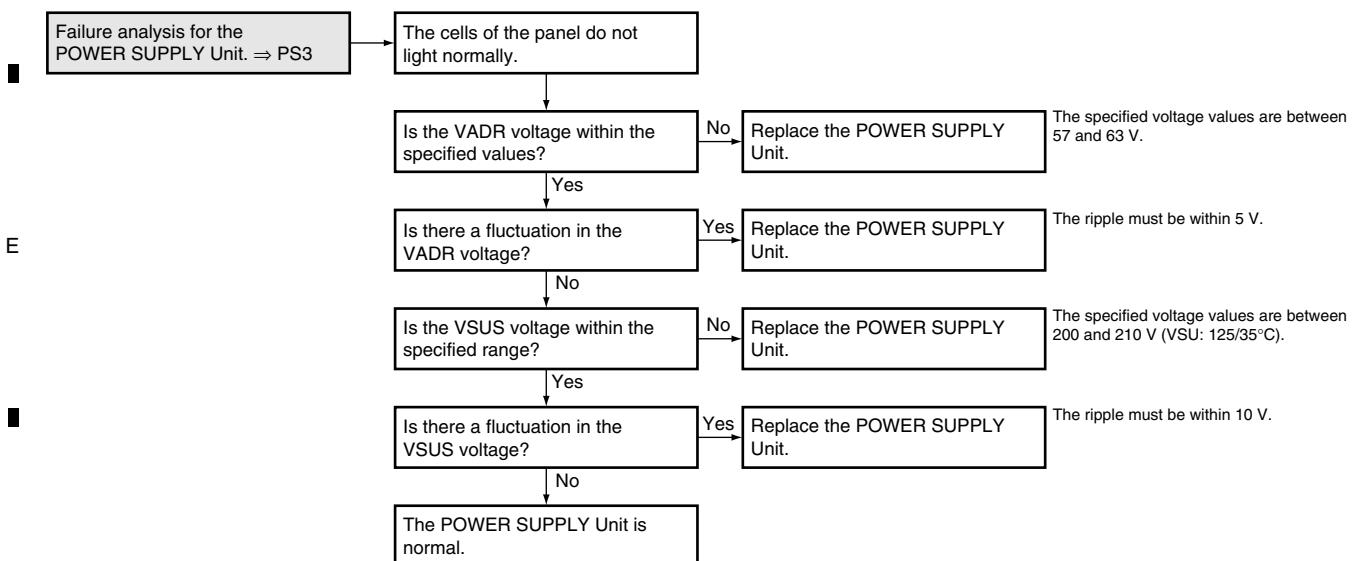


B

C

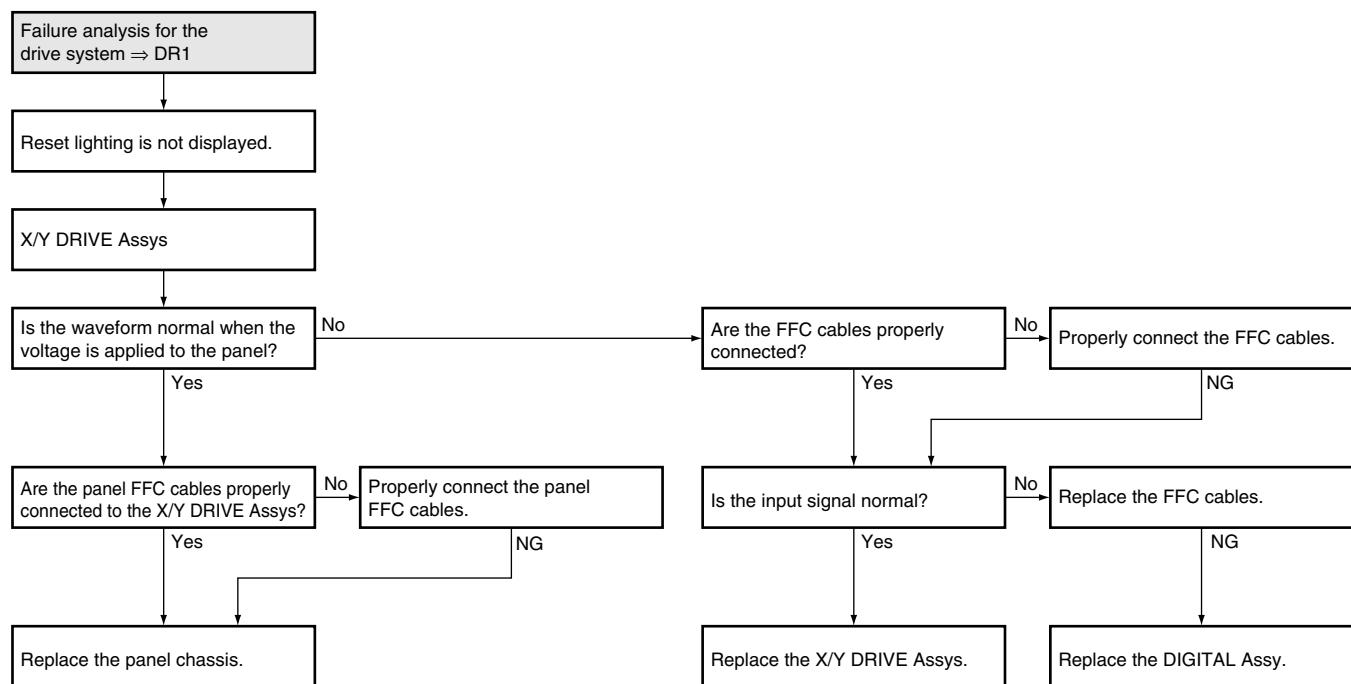


D



## 5.1.2 FLOWCHART OF FAILURE ANALYSIS FOR THE DRIVE ASSY

### Flowchart of Failure Analysis for The Drive Assy



A

B

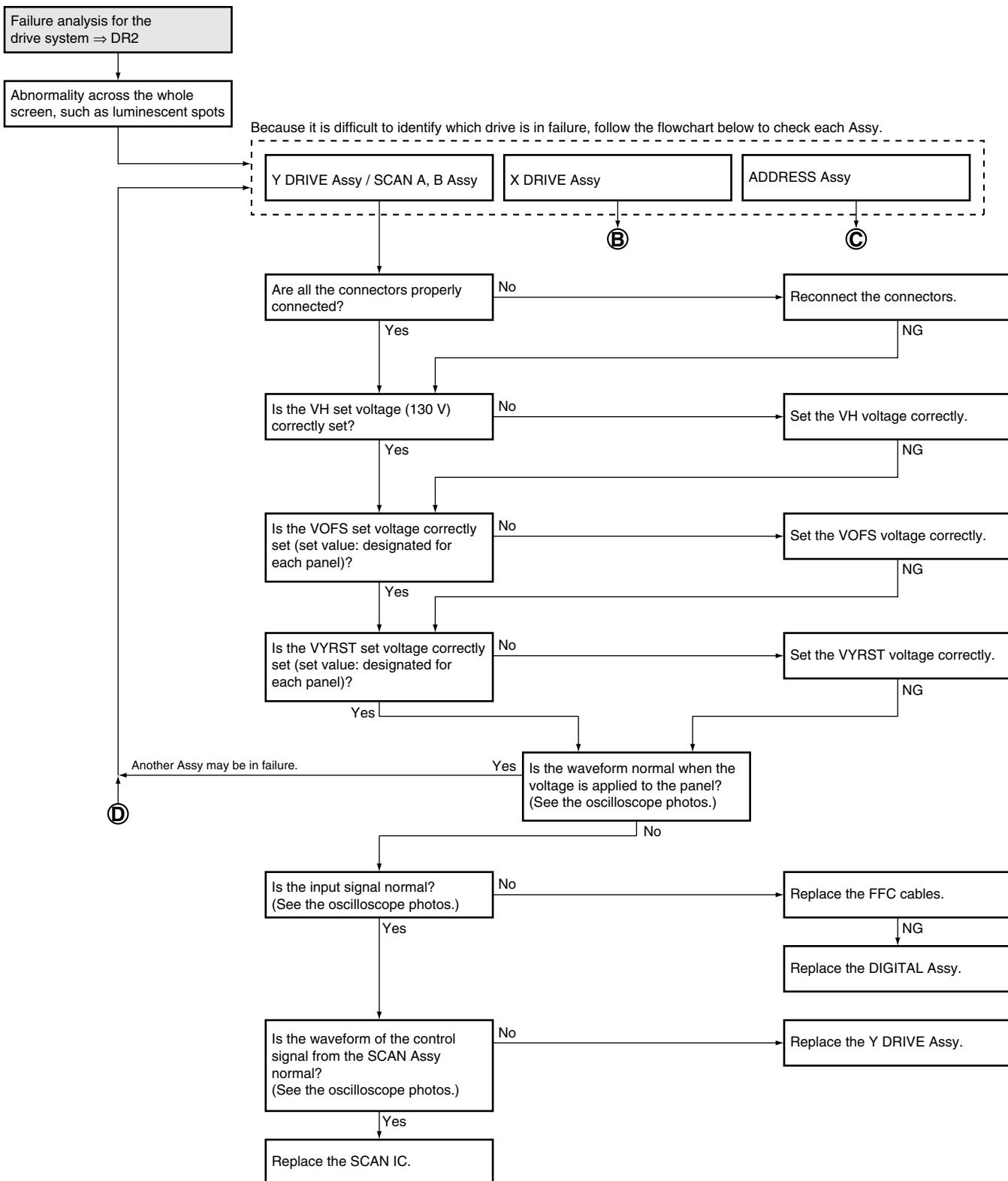
C

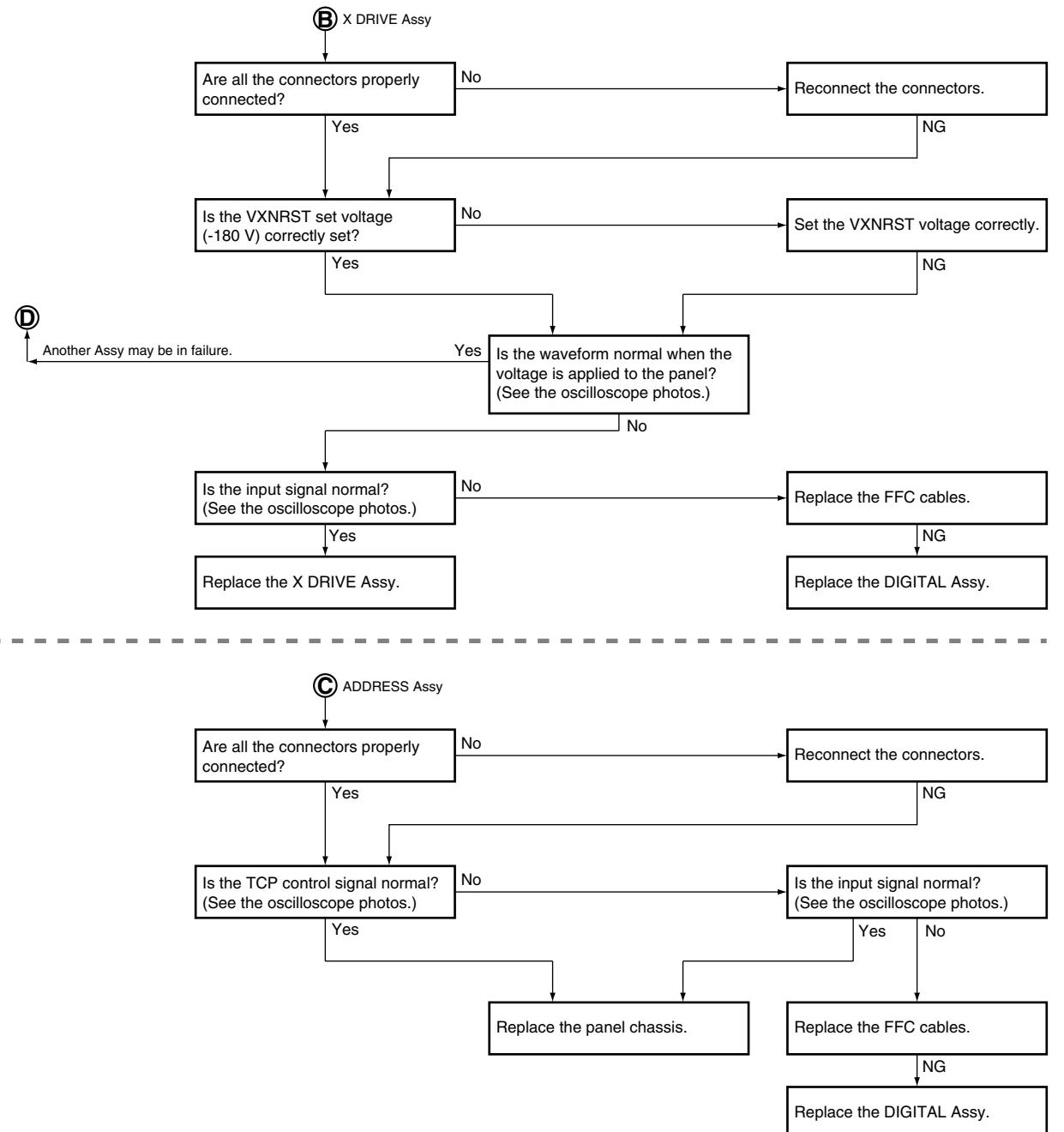
D

E

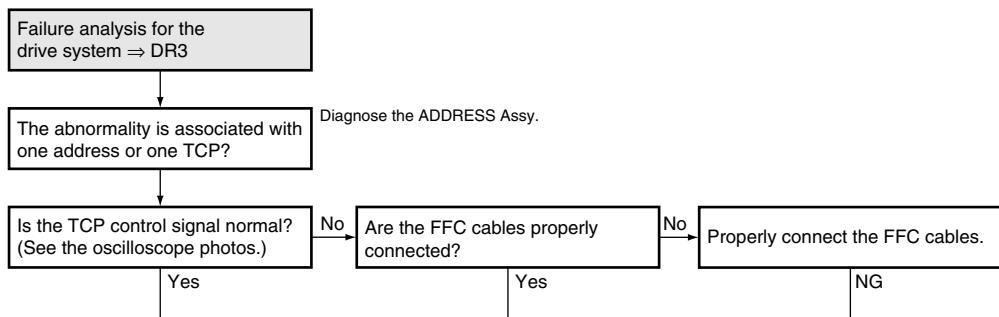
F

A

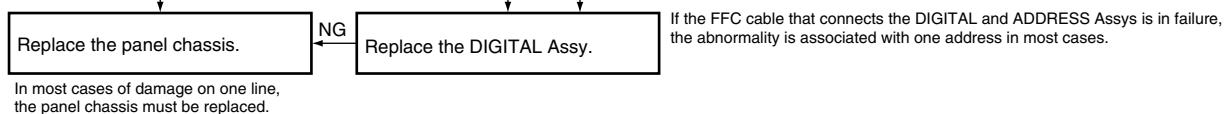




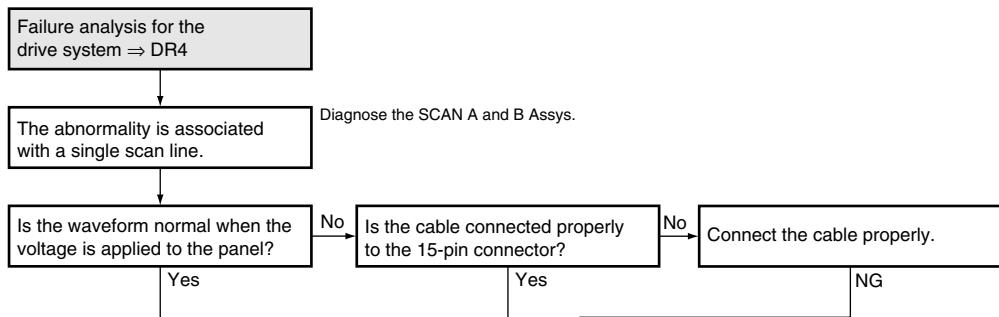
A



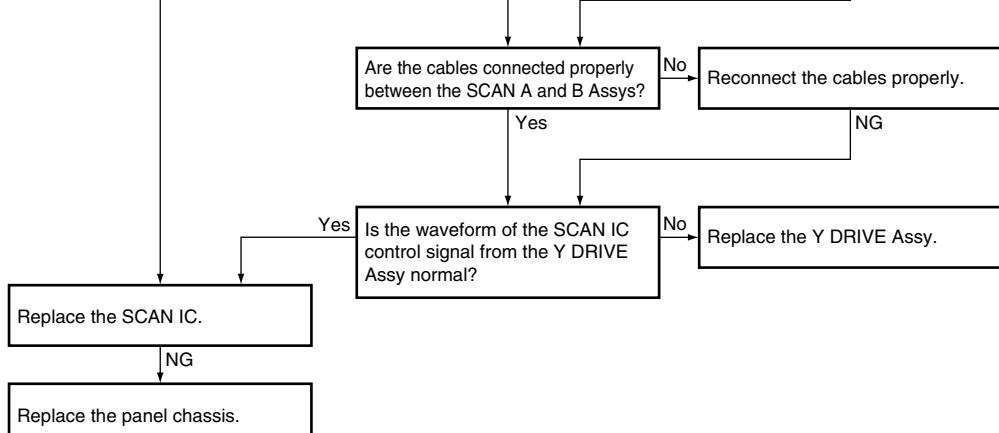
B



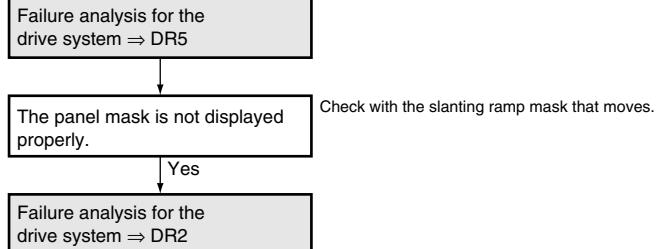
C



D



E

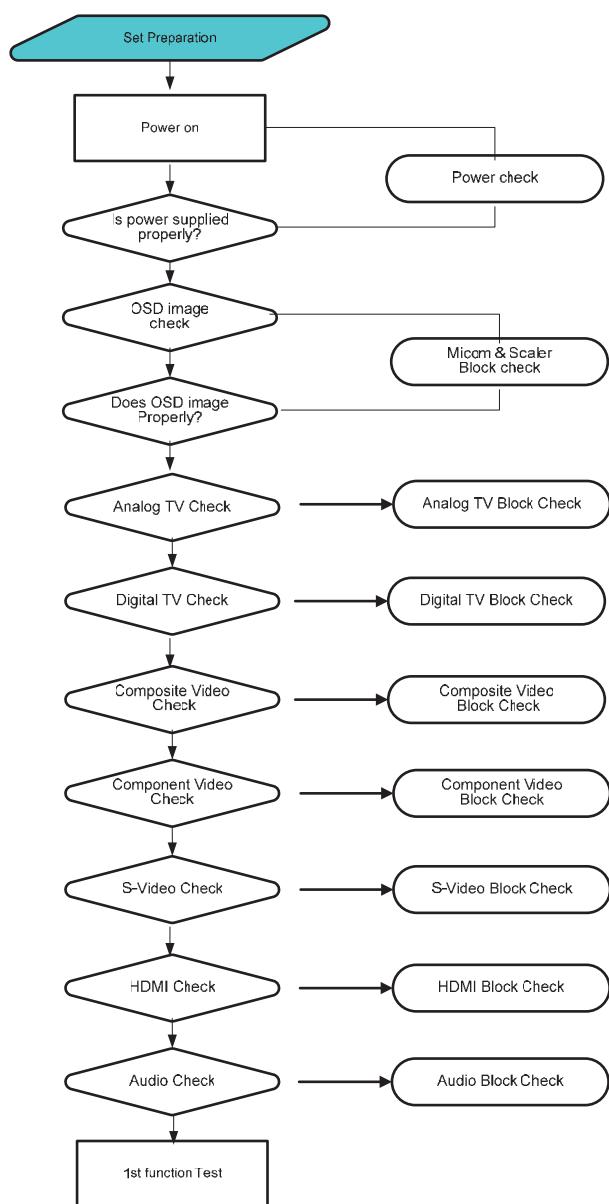


F

## 5.1.3 FLOWCHART OF FAILURE ANALYSIS

### Flowchart of Failure Analysis

#### 1) Basic Function Test



A

B

C

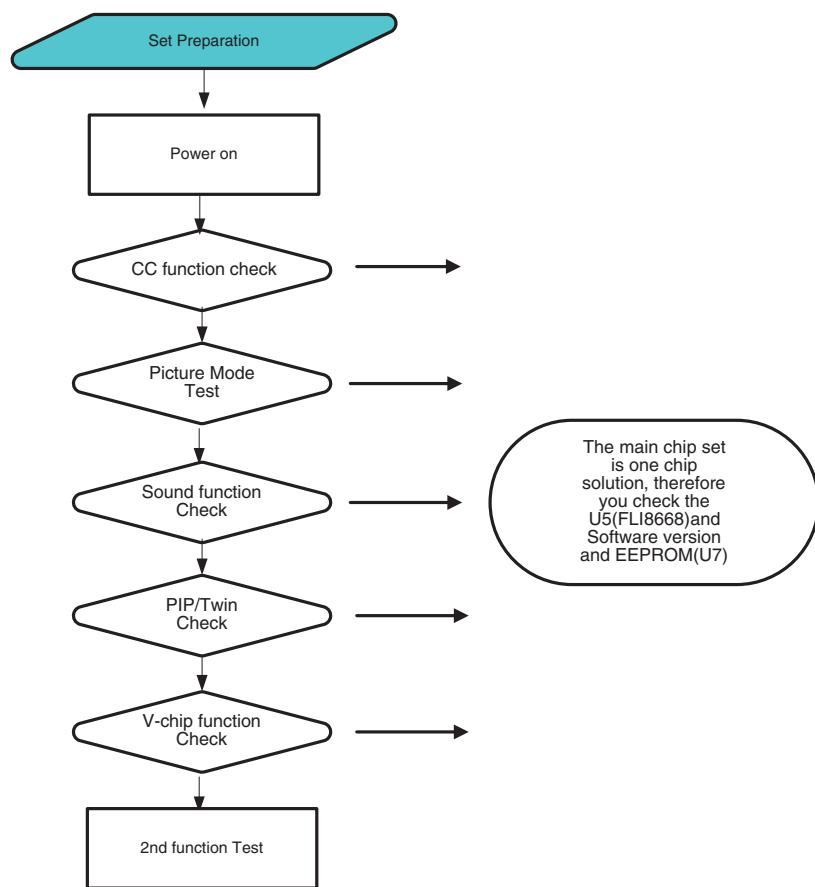
D

E

F

A

## 2) Detailed Function Test



B

C

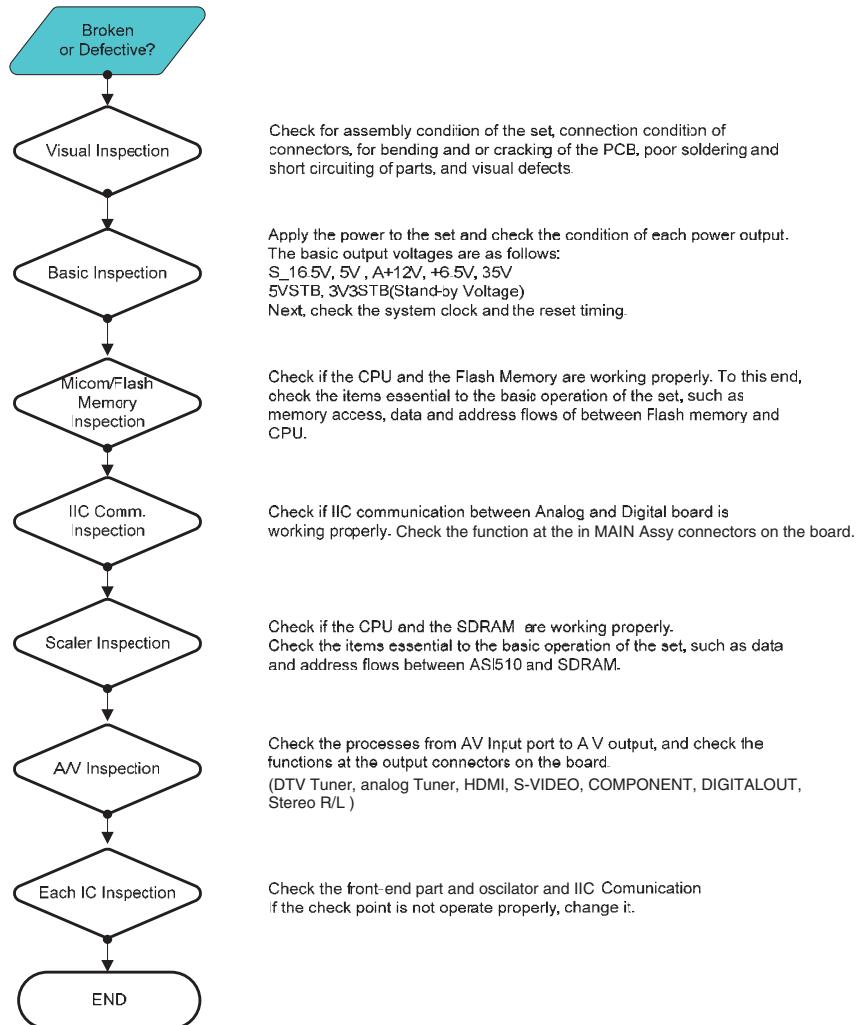
D

E

F

### 3) Troubleshooting Guideline

I. It is recommended that the repair of broken and or defective sets should follow the recommended flow as described below:



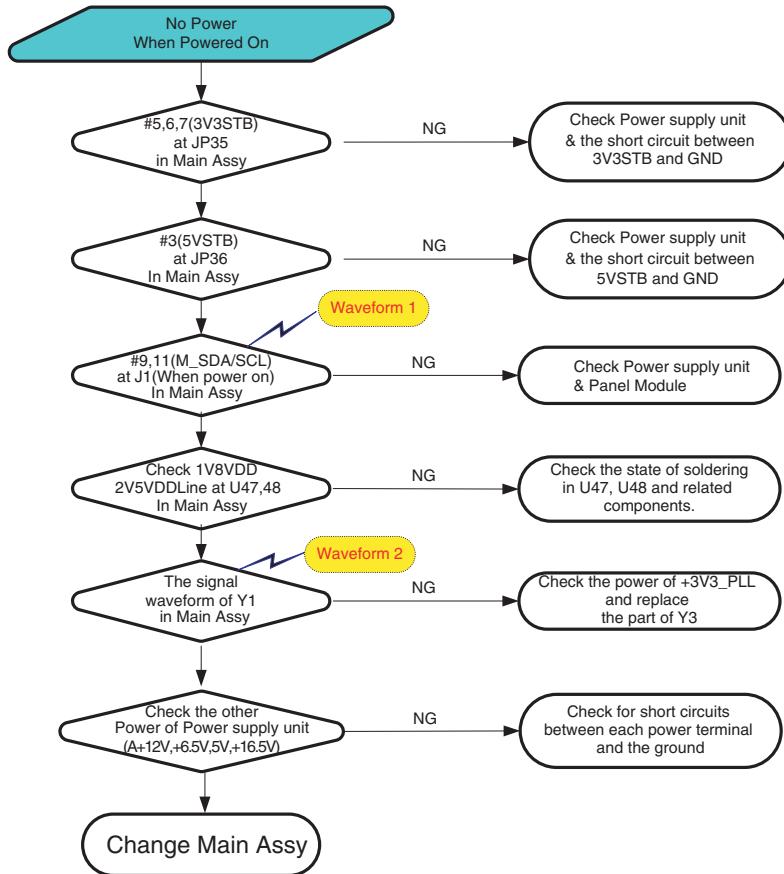
II. The illustrations and waveforms contained in this manual may differ depending on the system condition and the signal being received. Use them only as a reference material. What is important is to identify the location of the problem by tracing the flow of related signals.  
It is recommended that you refer to the following example waveforms just as a reference material for a pattern of related signals.

A

#### 4) No Power

- ❖ Check the condition of the input power & cable connection.  
(JP35(3V3STB, A+12V, +6.5V), JP36(5VSTB,35V), JP34(5V), JP33(S\_16.5V))
- ❖ Check the condition of on-board regulators.
- ❖ Check for short circuits between each power terminal and the ground.

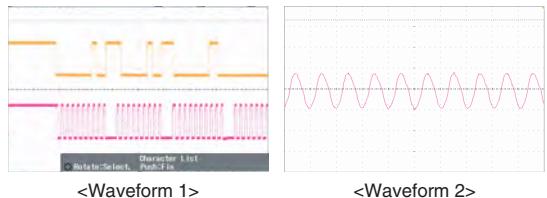
B



C

D

#### • Waveform



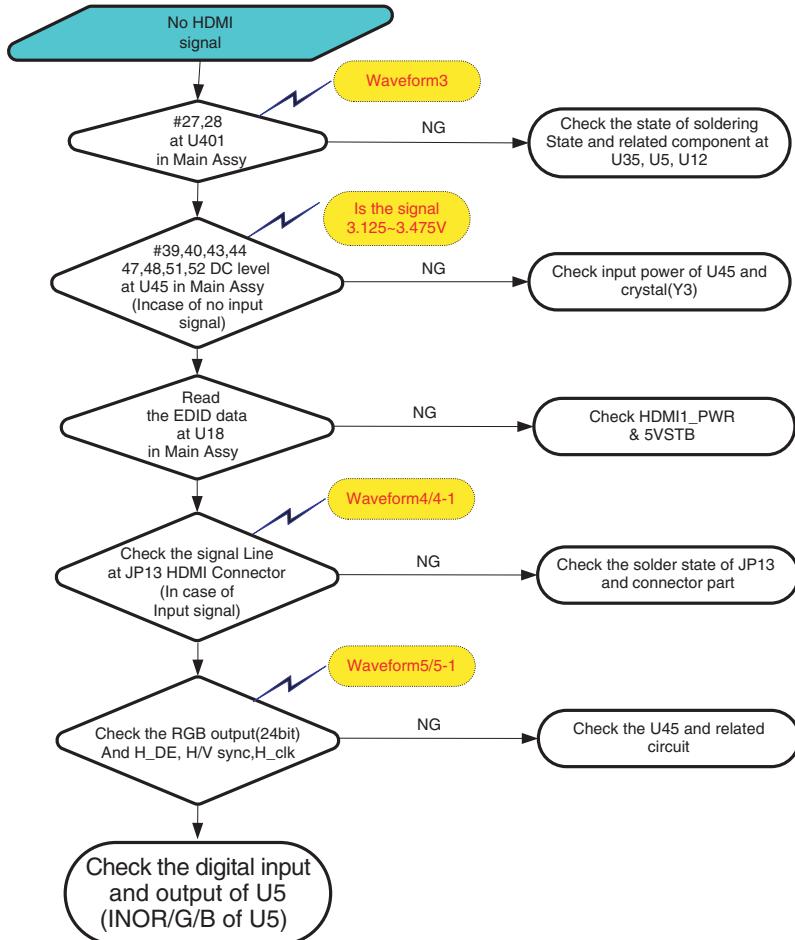
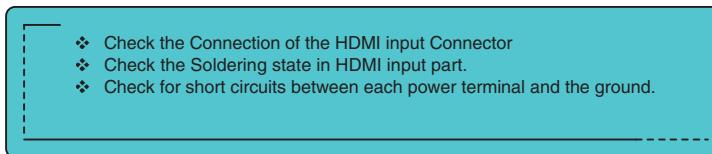
&lt;Waveform 1&gt;

&lt;Waveform 2&gt;

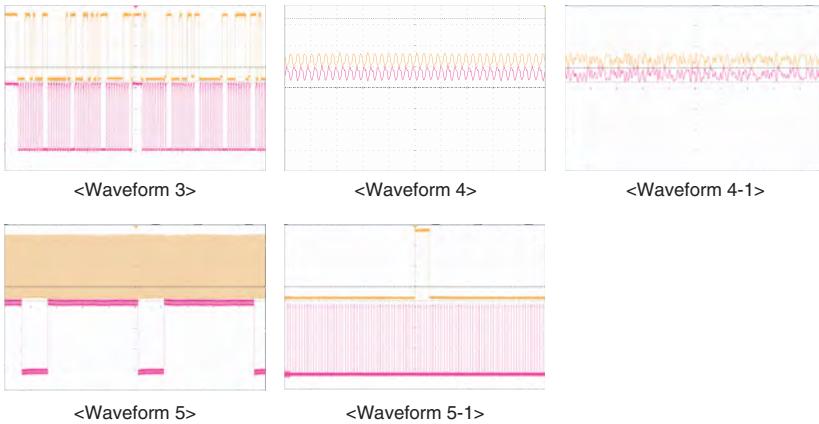
F

**T01****T01**

## 5) No HDMI 1 Signal



### • Waveform



T02

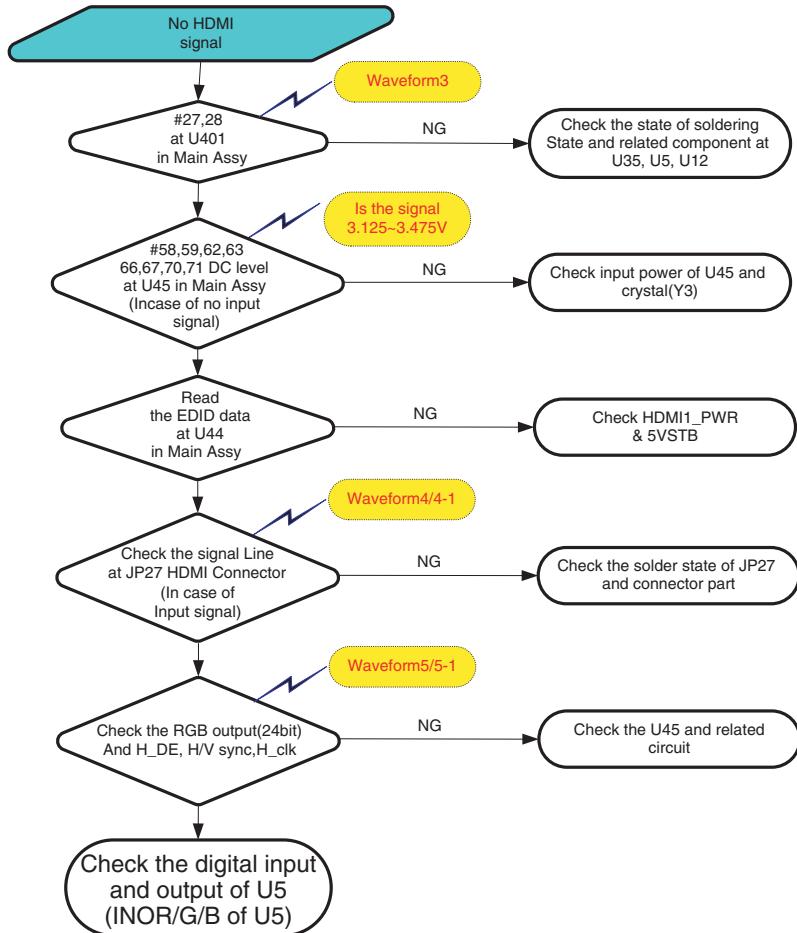
T02

A

## 6) No HDMI 2 Signal

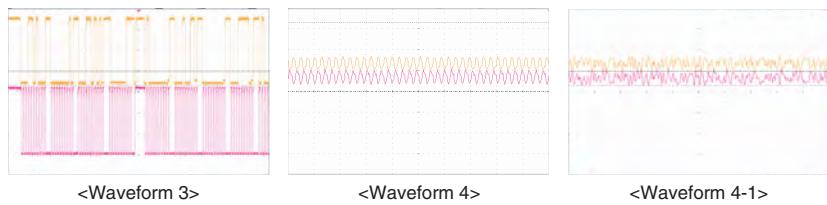
- ❖ Check the Connection of the HDMI input Connector
- ❖ Check the Soldering state in HDMI input part.
- ❖ Check for short circuits between each power terminal and the ground.

B



### • Waveform

E



&lt;Waveform 3&gt;

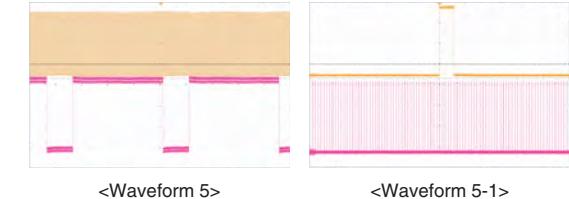
&lt;Waveform 4&gt;

&lt;Waveform 4-1&gt;

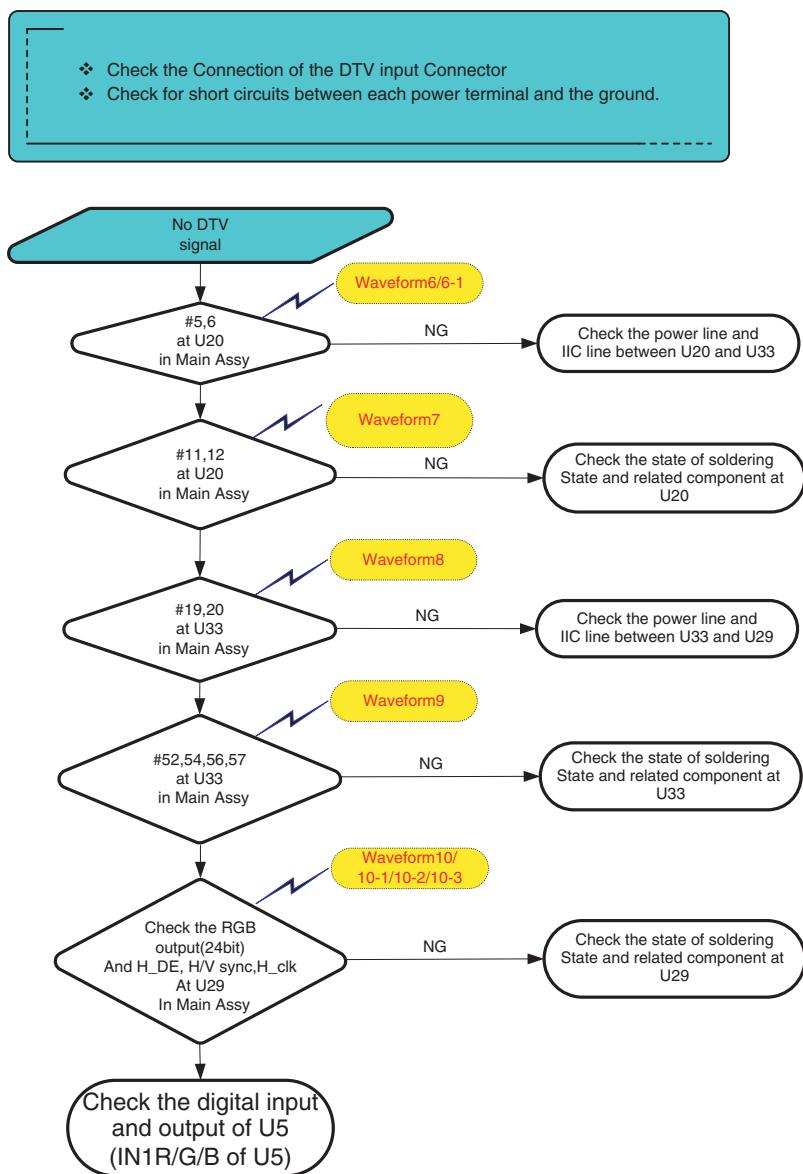
&lt;Waveform 5&gt;

&lt;Waveform 5-1&gt;

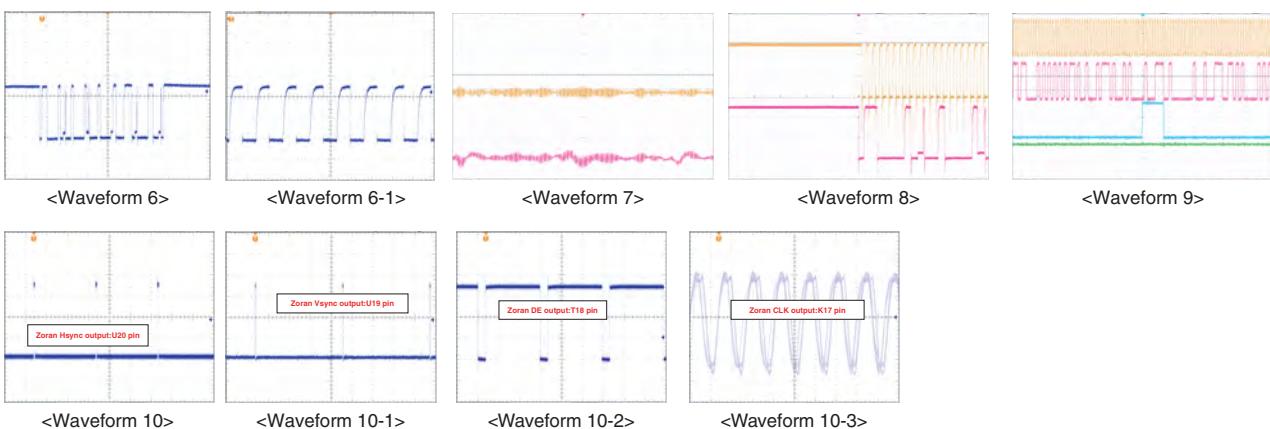
F

**T03****T03**

## 7) No DTV Signal



### • Waveform

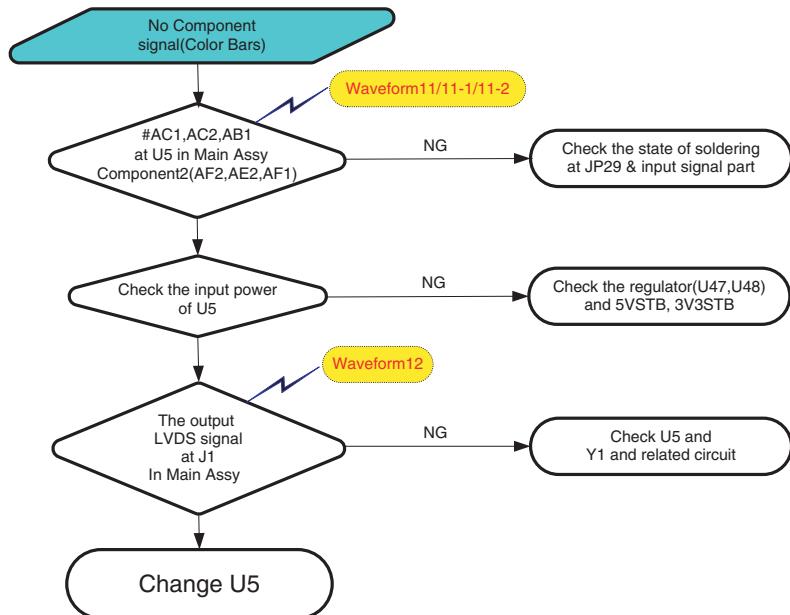


A

### 8) No Component 1/2 Video Signal

- ❖ Check the connection of the input component video signal.
- ❖ Check the soldering state between JP29 and U5
- ❖ Check the short point in signal line.
- ❖ Check for short circuits between each power terminal and the ground.

B

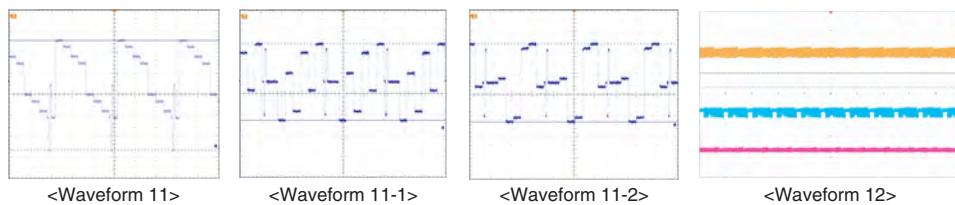


C

D

#### • Waveform

E



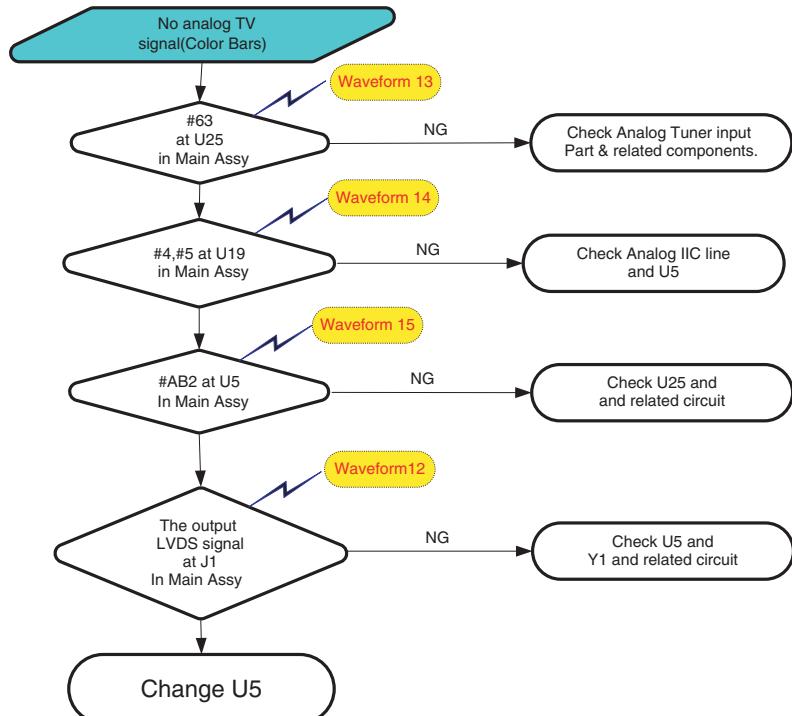
F

T05

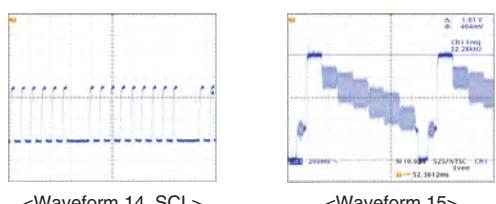
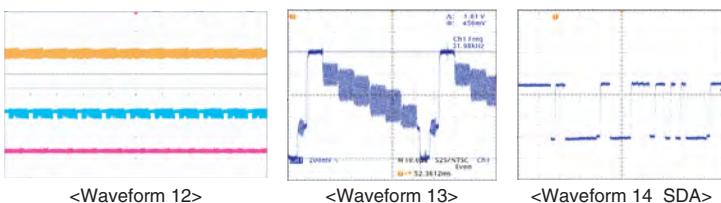
T05

### 9) No analog TV Signal

- ❖ Check the connection of the input TV signal.
- ❖ Check the soldering state in Tuner & input part
- ❖ Check the short point in signal line.
- ❖ Check for short circuits between each power terminal and the ground.



#### • Waveform



T06

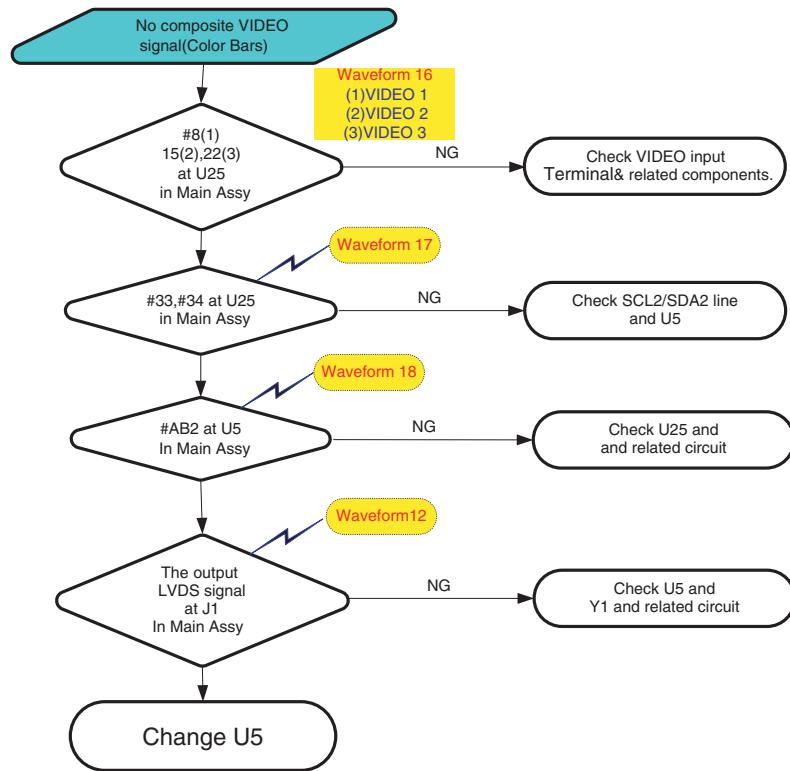
T06

A

## 10) No VIDEO 1/2/3 Signal

- ❖ Check the connection of the composite VIDEO signal.
- ❖ Check the soldering state in VIDEO Terminal & input part
- ❖ Check the short point in signal line.
- ❖ Check for short circuits between each power terminal and the ground.

B

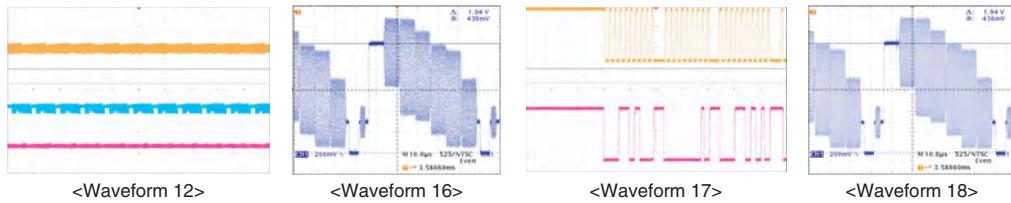


C

D

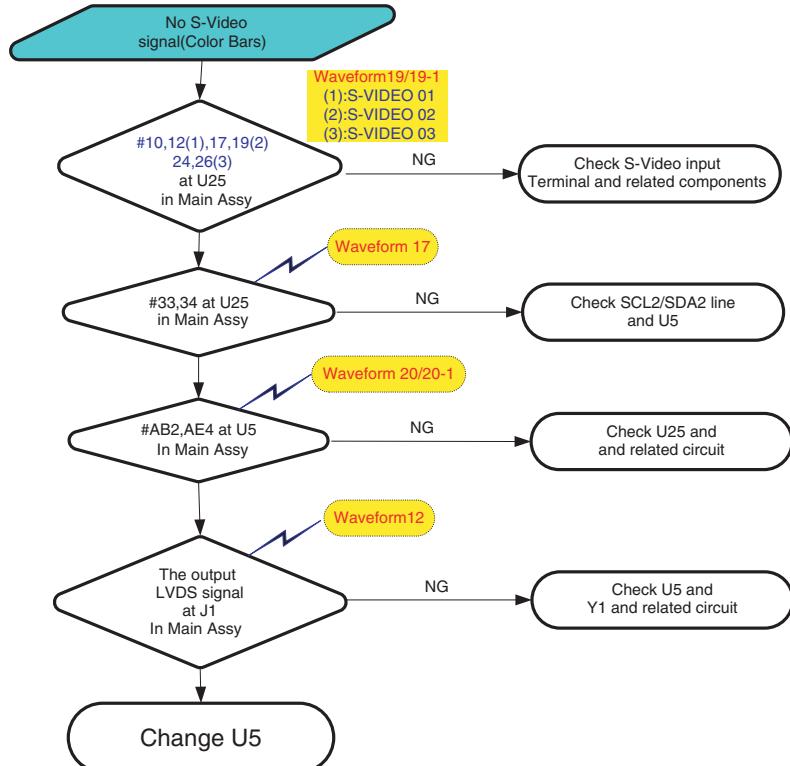
### • Waveform

E

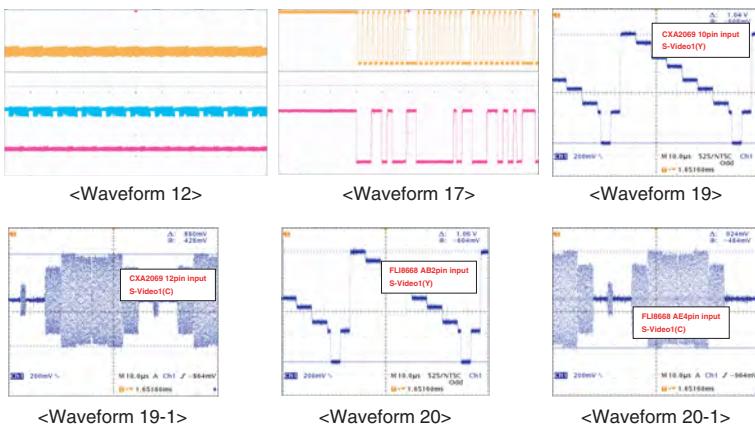


## 11) No S-Video Signal

- ❖ Check the connection of the input S-Video signal.
- ❖ Check the soldering state in S-Video Terminal & input part
- ❖ Check the short point in signal line.
- ❖ Check for short circuits between each power terminal and the ground.



### • Waveform



T08

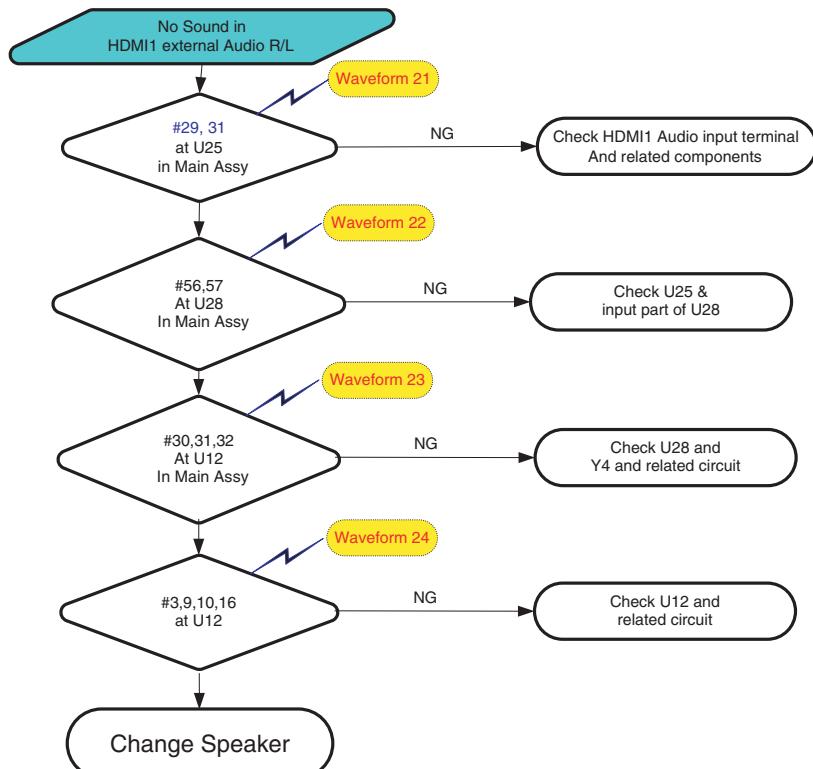
T08

A

12) No Sound in HDMI1 external audio input (Sine wave input 1KHz/3KHz)

- ❖ Check the connection of the input HDMI1 Audio R/L.
- ❖ Check the soldering state in HDMI1 Audio R/L & input part
- ❖ Check the short point in signal line.
- ❖ Check for short circuits between each power terminal and the ground.

B

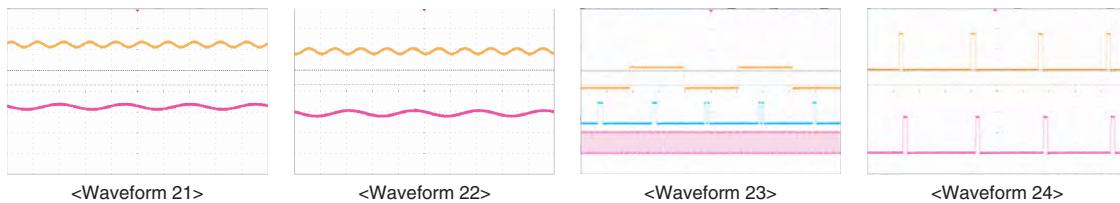


C

D

• Waveform

E



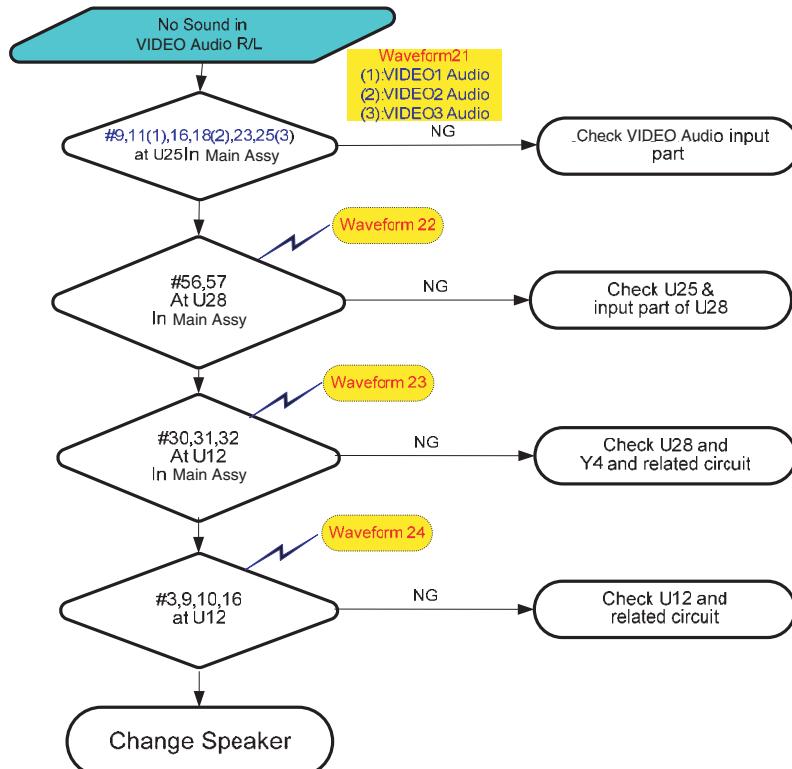
F

T09

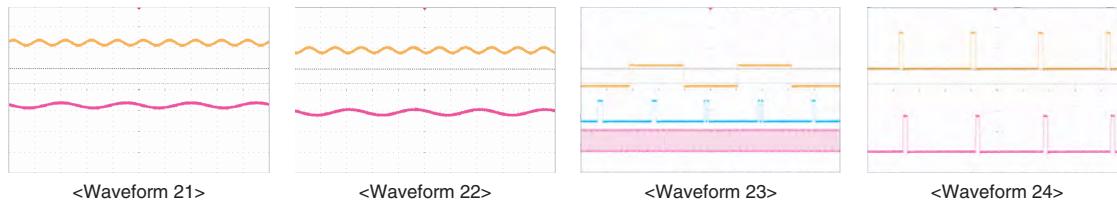
T09

### 13) No Sound in VIDEO input (Sine wave input)

- ❖ Check the connection of the input VIDEO Audio R/L.
- ❖ Check the soldering state in VIDEO Audio R/L & input part.
- ❖ Check the short point in signal line.
- ❖ Check for short circuits between each power terminal and the ground.



#### • Waveform



T10

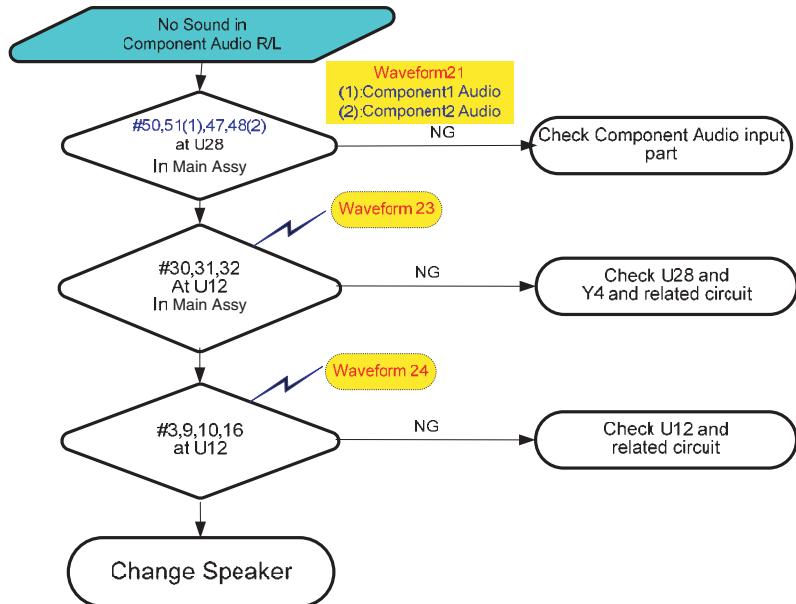
T10

A

#### 14) No Audio in Component Input (Sine wave input)

- ❖ Check the connection of the input Component Audio R/L.
- ❖ Check the soldering state in Component Audio R/L & input part
- ❖ Check the short point in signal line.
- ❖ Check for short circuits between each power terminal and the ground.

B

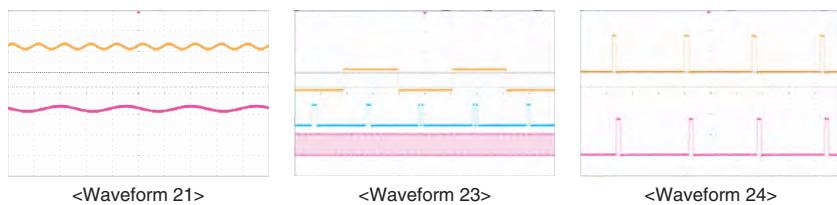


C

D

#### • Waveform

E



&lt;Waveform 21&gt;

&lt;Waveform 23&gt;

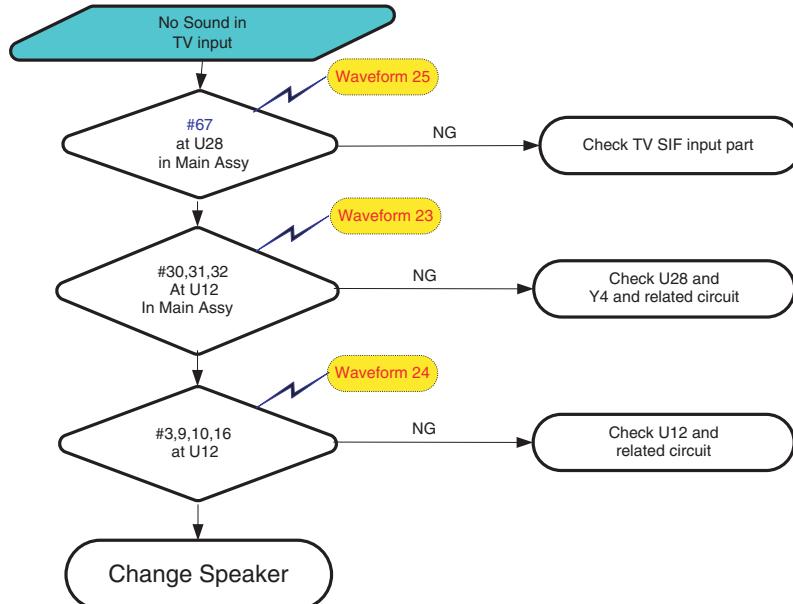
&lt;Waveform 24&gt;

F

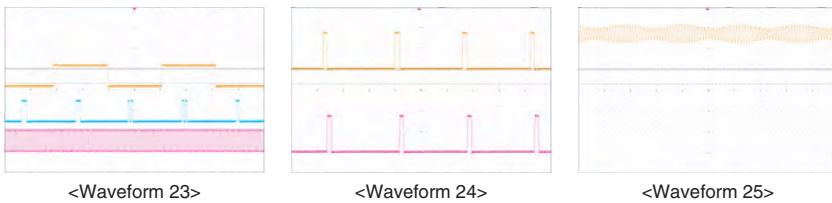
**T11****T11**

### 15) No analog TV Sound (Sine wave input)

- ❖ Check the connection of the input TV SIF.
- ❖ Check the soldering state in TV SIF input part.
- ❖ Check the short point in signal line.
- ❖ Check for short circuits between each power terminal and the ground.



#### • Waveform



T12

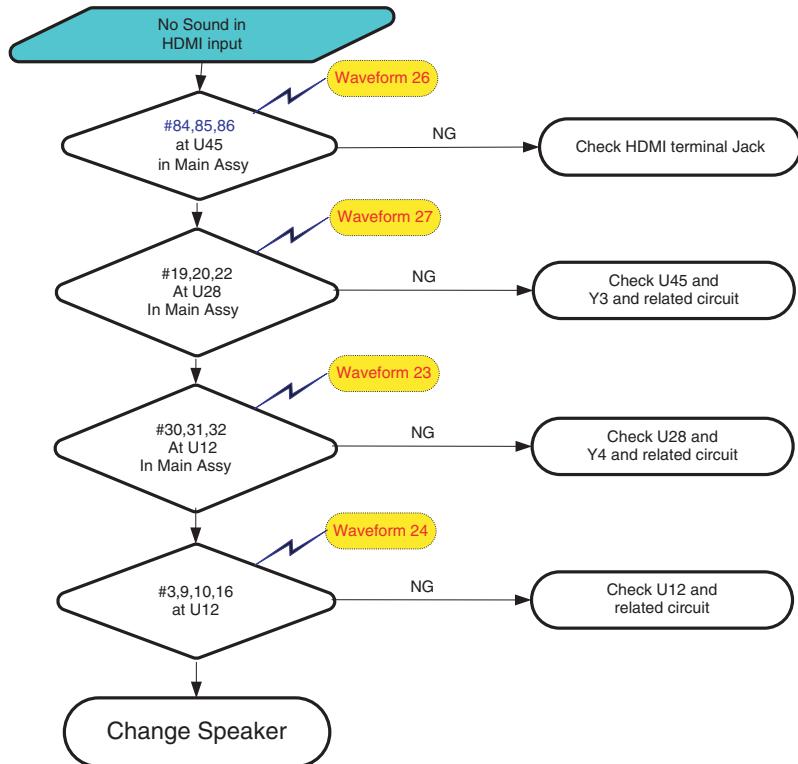
T12

A

### 16) No HDMI Sound in HDMI internal audio (Sine wave input)

- ❖ Check the connection of the HDMI Terminal .
- ❖ Check the soldering state in HDMI input part.
- ❖ Check the short point in signal line.
- ❖ Check for short circuits between each power terminal and the ground.

B

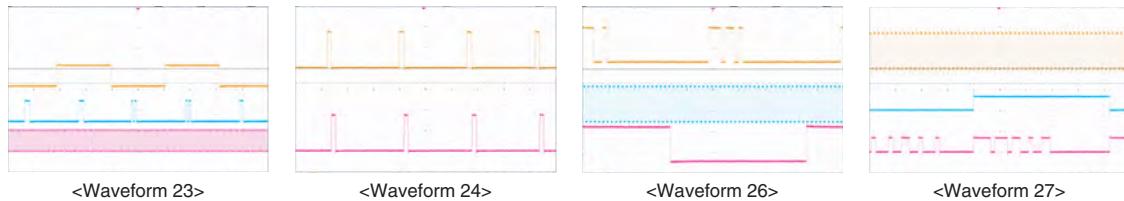


C

D

#### • Waveform

E

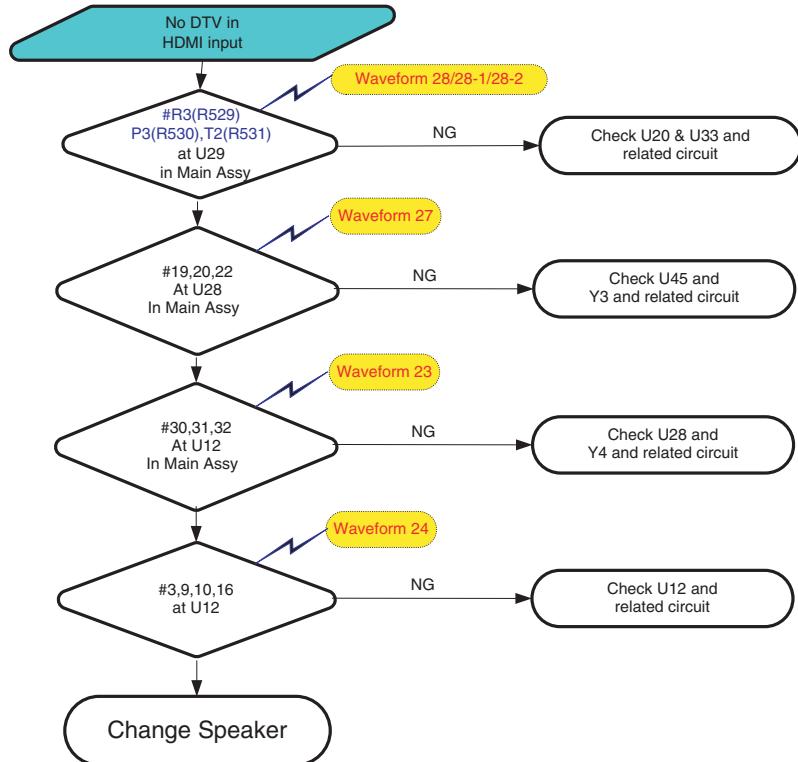


F

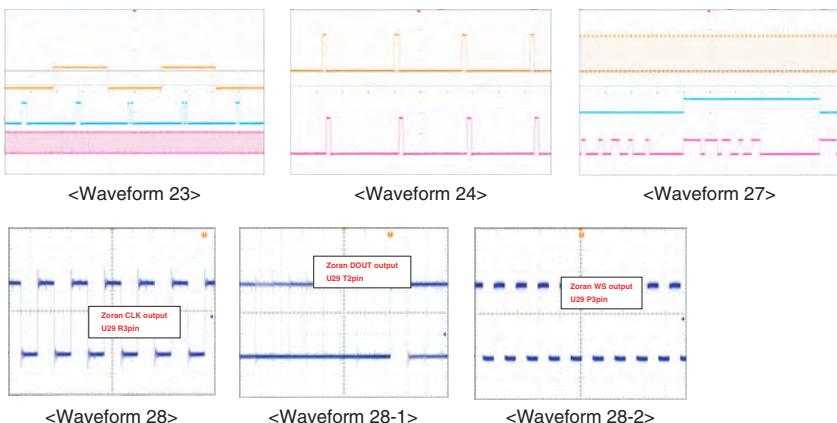
**T13****T13**

### 17) No DTV Sound (Sine wave input)

- ❖ Check the connection of the DTV input Terminal.
- ❖ Check the soldering state in DTV input part.
- ❖ Check the short point in signal line.
- ❖ Check for short circuits between each power terminal and the ground.



#### • Waveform



T14

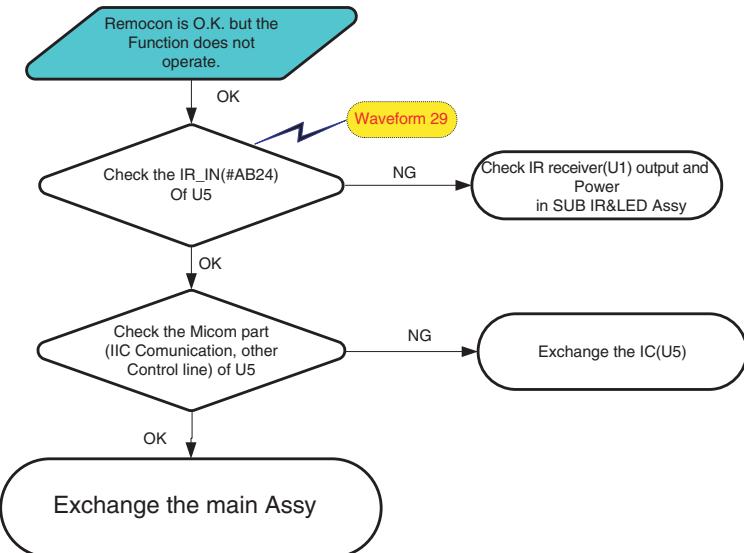
T14

A

### 18) No Operating of a Remote Controller

- ❖ Check the Solder state and pin of Connector JP40
- ❖ Check the Solder state in SUB IR&LED Assy.
- ❖ Check the I2C between Micom and EEPROM.

B

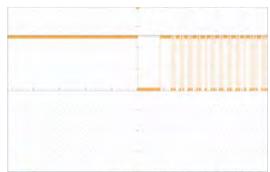


C

D

#### • Waveform

E



<Waveform 29>

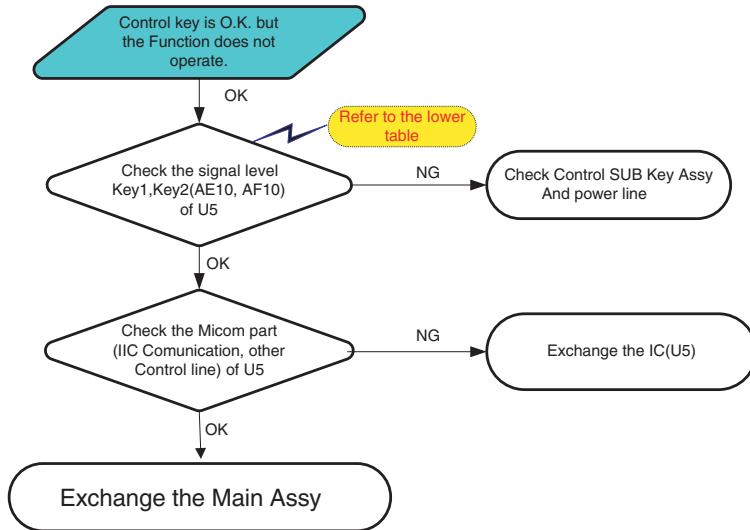
F

**T15**

**T15**

### 19) No Operating of a Key

- ❖ Check the Solder state and pin of Connector JP41
- ❖ Check the Solder state in SUB Key Assy.
- ❖ Check the I2C between Micom and EEPROM.
- ❖ Check the Flash Memory or SDRAM.



C

D

POWER(0.265~0.445V)
MEMU(0.850~1.030V)
AV(1.34~1.54V)
SELECT(1.98~2.17V)
CH+(0.280~0.460V)
CH-(0.850~1.020V)
VOL+(1.35~1.53V)
VOL-(1.97~2.16V)

E

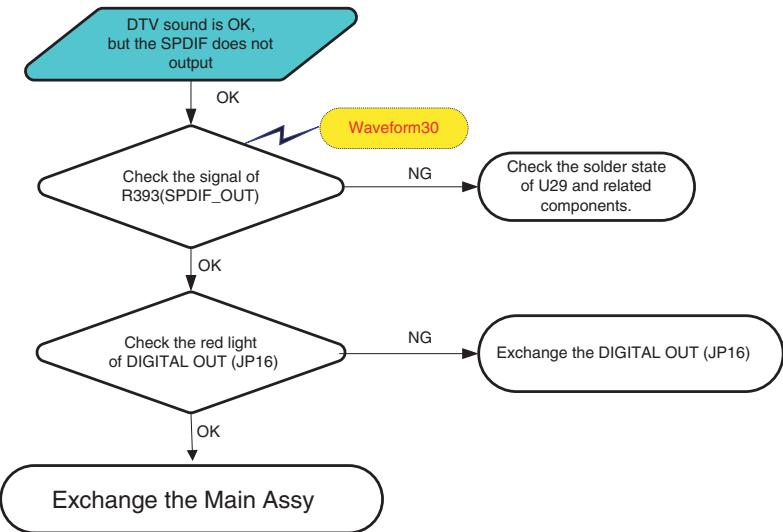
F

A

## 20) No DIGITAL audio out

- ❖ Check the Solder state and pin of DIGITAL OUT (JP16).
- ❖ Check the DTV sound and video state.

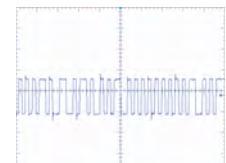
B



C

D

E



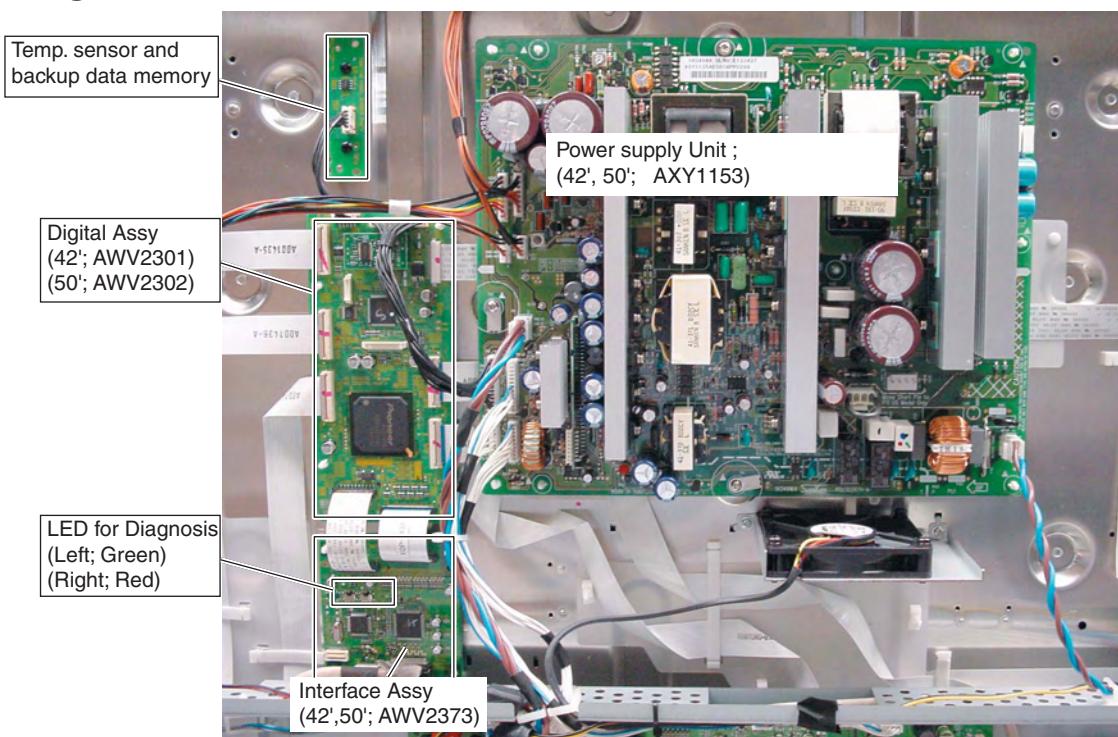
<Waveform 30>

F

**T17**
**T17**

## 5.2 DIAGNOSIS OF PD (POWER-DOWN) and SD (SHUTDOWN)

- Diagnosis of the PDP Module



P/D and S/D diagnoses with a blinking of a red or a green LED in the interface Assy.

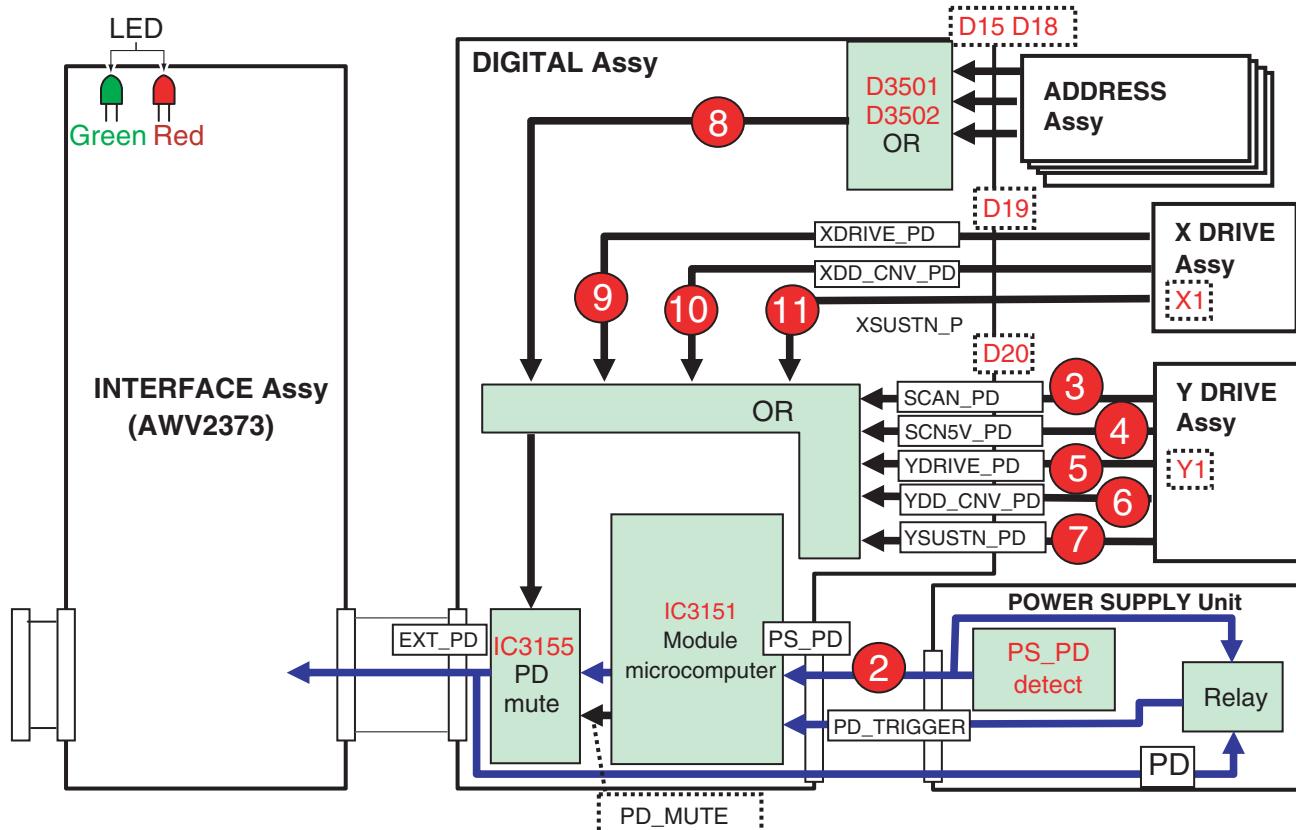
### 5.2.1 BLOCK DIAGRAM OF THE POWER DOWN SIGNAL

- Check LED flashes on INTERFACE Assy

Normal operation

Stanby ; Red

Power ON; Green



Note: The figure number shows the LED blinking times if Power down.

## 5.2.2 DIAGNOSIS OF THE PD (POWER-DOWN)

### ■ Prediction of failure symptoms when a PD (power-down) generated

A	LED Flashing Count (Interface Assy)	PD Circuit	Checkpoint	Main Cause
	Red 2	Power supply PD	POWER SUPPLY Unit	Failure in the POWER SUPPLY Unit
B	Red 3	SCAN PD	42 SCAN A, B Assy 50 SCAN A, B Assy	SCAN IC is damaged (short-circuiting between VH and GNDH)
			42 Y DRIVE Assy 50 Y DRIVE Assy	Connectors disconnected between the POWER SUPPLY Unit and the Y DRIVE Assy Connectors disconnected between the DIGITAL and the Y DRIVE Assys Failure in the VH power
C	Red 4	IC5V PD	42 SCAN A, B Assy 50 SCAN A, B Assy	SCAN IC is damaged (short-circuiting between IC5V and GNDH)
			42 Y DRIVE Assy 50 Y DRIVE Assy	Disconnection of the scan-bridge (15-pin) connector
			42 Y DRIVE Assy 50 Y DRIVE Assy	Failure in the photo coupler
	Red 5	Y-DRIVE PD	42 Y DRIVE Assy 50 Y DRIVE Assy	Abnormality in the 16.5 V power
D	Red 6	Y DCDC PD	42 Y DRIVE Assy 50 Y DRIVE Assy	Abnormality in the VOFS DC/DC converter
				Abnormality in the VPRST DC/DC converter
				Abnormality in VC_15V DC/DC converter
E	Red 7	Y SUS PD	42 Y DRIVE Assy 50 Y DRIVE Assy	Abnormality in the DK module
				Abnormality in the control signal line
	Red 8	Address PD	42 ADDRESS Assy 50 ADDRESS Assy	Short-circuiting of Vadr TCP damaged
F	Red 9	X-DRIVE PD	42 X DRIVE Assy 50 X DRIVE Assy	Connectors disconnected between the DIGITAL and the X DRIVE Assys
				Abnormality in the 16.5 V power
G	Red 10	X DCDC PD	42 X DRIVE Assy 50 X DRIVE Assy	Abnormality in VC_15V power
				Abnormality in VXNRST power
H	Red 11	X SUS PD	42 X DRIVE Assy 50 X DRIVE Assy	Abnormality in the DK module
				Abnormality in the control signal line
				Connectors disconnected between the POWER SUPPLY Unit and the X DRIVE Assy

### ■ How to distinguish which connector is disconnected

D	Assy	Connector	To which Assy the Connector is Connected	Frequency of LED Flashing (Inter Face Assy)	Screen Display
I	42 X DRIVE Assy 50 X DRIVE Assy	CN1001	42 DIGITAL Assy, 50 DIGITAL Assy	Red 11 (XDRIVE)	—
		CN1204	POWER SUPPLY Unit (ADR system power)	—	White (left half of the screen)
		CN1206	POWER SUPPLY Unit (drive system power)	Red 12 (X-SUS)	—
		CN1201, CN1202, CN1203, CN1205	42 ADDRESS Assy 50 ADDRESS Assy	Red 8 (ADR)	—
J	42 Y DRIVE Assy 50 Y DRIVE Assy	CN2001	42 DIGITAL Assy, 50 DIGITAL Assy	Red 3 (SCAN)	—
		CN2351	POWER SUPPLY Unit (drive system power)	Red 3 (SCAN)	—
		CN2353	POWER SUPPLY Unit (ADR system power)	—	White (right half of the screen)
		CN2354, CN2355, CN2356, CN2357	42 ADDRESS Assy 50 ADDRESS Assy	Red 8 (ADR)	—
		CN2401, CN2402	42 SCAN A, B Assy ,50 SCAN A, B Assy	Red 4 (SCN-5V)	—
K	SCAN A, B Assy	CN2701, CN2801	42 Y DRIVE Assy, 50 Y DRIVE Assy	Red 4 (SCN-5V)	—
L	42 ADDRESS Assy 50 ADDRESS Assy	CN1502, CN1702	42 DIGITAL Assy, 50 DIGITAL Assy	Red 8 (ADRS)	—
M		CN1501, CN1701	42 X DRIVE Assy, 50 X DRIVE Assy 42 Y DRIVE Assy, 50 Y DRIVE Assy	Red 8 (ADRS)	—

## ■ How to identify the cause of a power-down that is indicated by 2-times flashing of the red LED

The cause of a power-down that is indicated by 2-times flashing of the red LED can be identified by performing the steps ① to ③ below:

- ① Visual check with the power off
- ② Tester check with the power off
- ③ Check with the power on

### ① Status check with the power off

Check if the cables and FFC cables that are connected to the Y DRIVE Assy are firmly connected.

### ② Tester check with the power off

#### 1. Check between Vsus and SUSGND with a tester

Disconnect all cables from the X and Y DRIVE Assys and check if there is short-circuiting between Vsus and SUSGND in the X and Y DRIVE Assys.

- How to check if there is short-circuiting on the X DRIVE Assy:  
If there is short-circuiting between Vsus and SUS OUT, and SUS OUT and SUSGND, the X Mask Module is damaged.  
If they are not short-circuited, check other elements to see if they are short-circuited.
- How to check if there is short-circuiting on the Y DRIVE Assy:  
If there is short-circuiting between Vsus and SUS OUT, and SUS OUT and SUSGND, the Y Mask Module is damaged.  
If they are not short-circuited, check other elements to see if they are short-circuited.
- Check for short-circuiting in the Power supply.

Note that at the beginning of measuring with a tester, charging of an electrolytic capacitor may cause a phenomenon like short-circuiting. However, the resistance will soon rise if there is no short-circuiting.

#### 2. Check for short-circuiting between VH and PSUS with a tester

Disconnect the cables that connect the bridge connectors between the Y DRIVE Assy and upper and lower SCAN Assys.

- If there is short-circuiting in the upper SCAN Assy, one of Scan ICs in the upper SCAN Assy is damaged.
- If there is short-circuiting in the lower SCAN Assy, one of Scan ICs in the lower SCAN Assy is damaged.
- If there is short-circuiting in the Y DRIVE Assy, a circuit in the Y DRIVE Assy is short-circuited.

If no short-circuiting is detected up to this stage, the power-down in question is proved not to be caused by short-circuiting. Therefore, it is assumed that the power-down occurred because power had not been supplied to Vsus or VH for some reason.

### ③ Check immediately after the unit is turned on before a power-down occurs.

If the Vsus voltage does not increase, the POWER SUPPLY Unit is in failure.

If the VH voltage does not increase, the VH DC/DC converter in the Y DRIVE Assy is in failure.

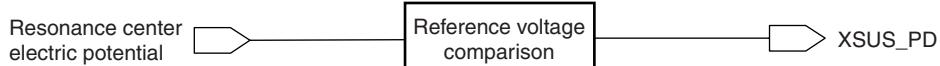
### ④ Check the PD detection circuit.

If no problem is detected in steps ① to ③, a power-down occurred even though the voltage was normal.  
Therefore, the PD detection circuit may be in failure.

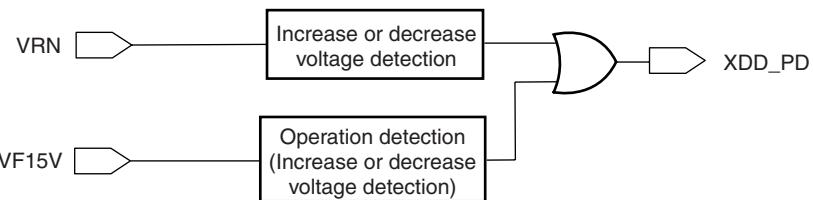
By following the above procedures, the real cause of a power-down can be judged.

A

### X Drive PD system

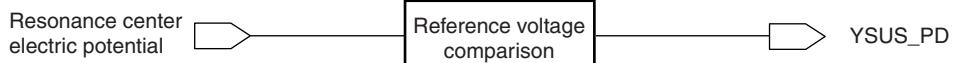


B

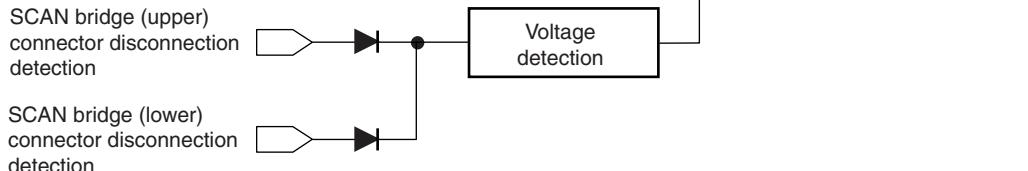


C

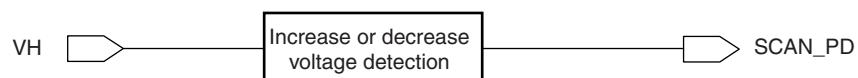
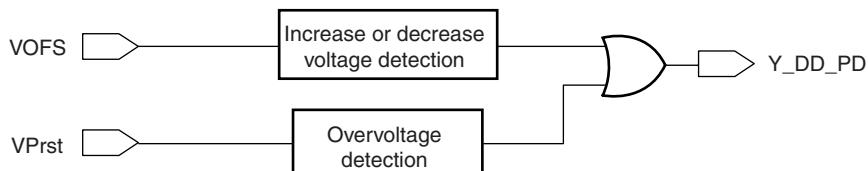
### Y Drive PD system



D



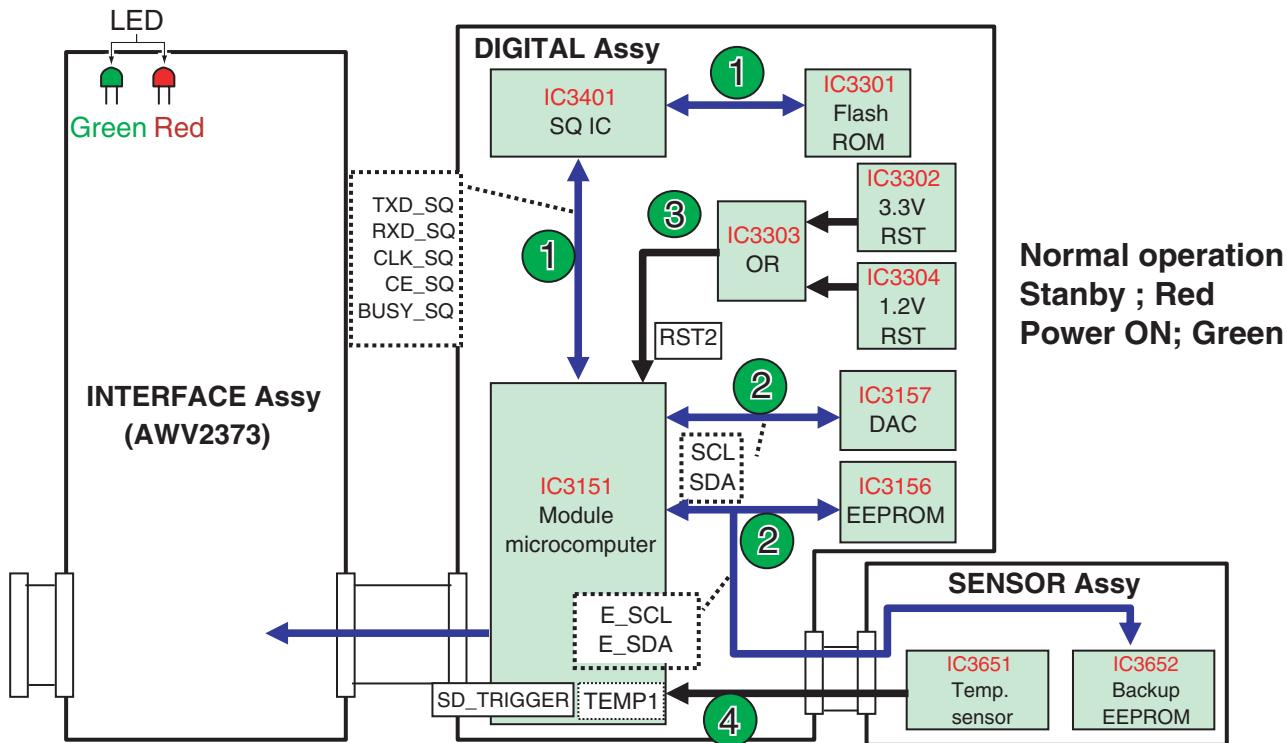
E



F

## 5.2.3 BLOCK DIAGRAM OF THE SHUTDOWN SIGNAL

- Check LED flashes on INTERFACE Assy



Note: The figure number shows the LED blinking times if Shutdown.

## 5.2.4 DIAGNOSIS OF THE SD (SHUTDOWN)

### ■ Prediction of failure symptoms when a SD (Shutdown) generated

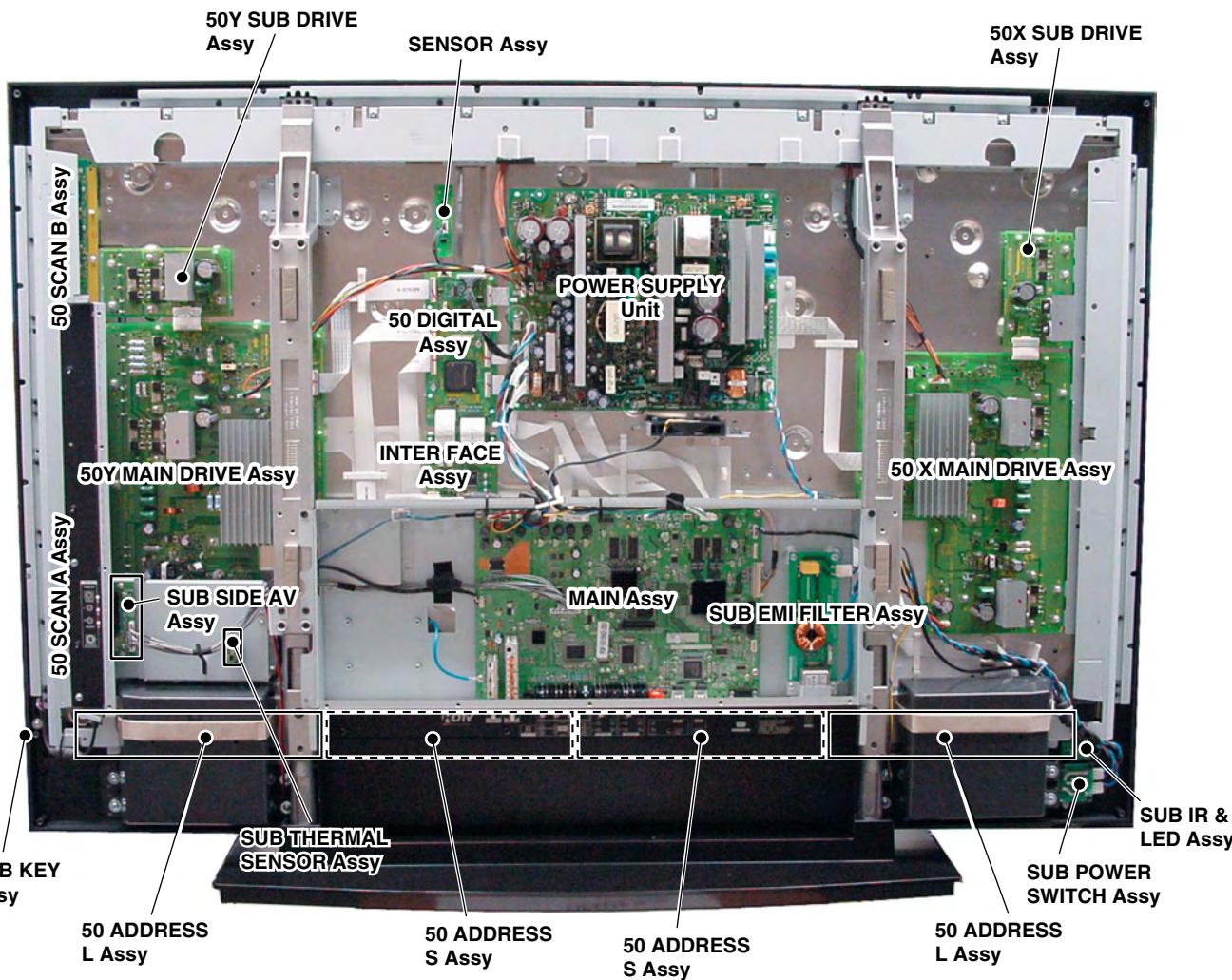
LED Flashing Count (Interface Assy)	SD Circuit	Subcategory			Point to be Checked (Possible defective part)
Green 1	Sequence processor NG	Communication failure	SQ-IC	RTRY	CLK_SQ/TXD_SQ/RXD_SQ (IC3151/IC3401)
		Sequence stop		SQNO	(CN3001/IC3401)
		Busy		BUSY	BUSY_SQ , (IC3401)
		Version error		VER-HS	SQ-IC version, (IC3301/IC3401)
Green 2	IIC communication failure of the module microcomputer	DIGITAL Assy EEPROM	MD-IIC	EEPROM	IIC communication of IC3156 (IC3151/IC3156)
		PANEL SENSOR EEPROM		BACKUP	IC communication of IC3652 (IC3151/IC3652)
		DAC		DAC	IIC communication of IC3157 (IC3151/IC3157)
Green 3	Power decrease of DIGITAL DCDC		RST2	-	DCDC converter output voltage (AXY1137-)
					V+12V voltage (Power supply Assy)
Green 4	Panel having higher temperature (TEMP1)		TMP_NG	TEMP1	Surrounding temperature Abnormality of temperature sensor (AWW1140: (IC3901))

# 6. DISASSEMBLY

## 6.1 PCB LOCATION

A

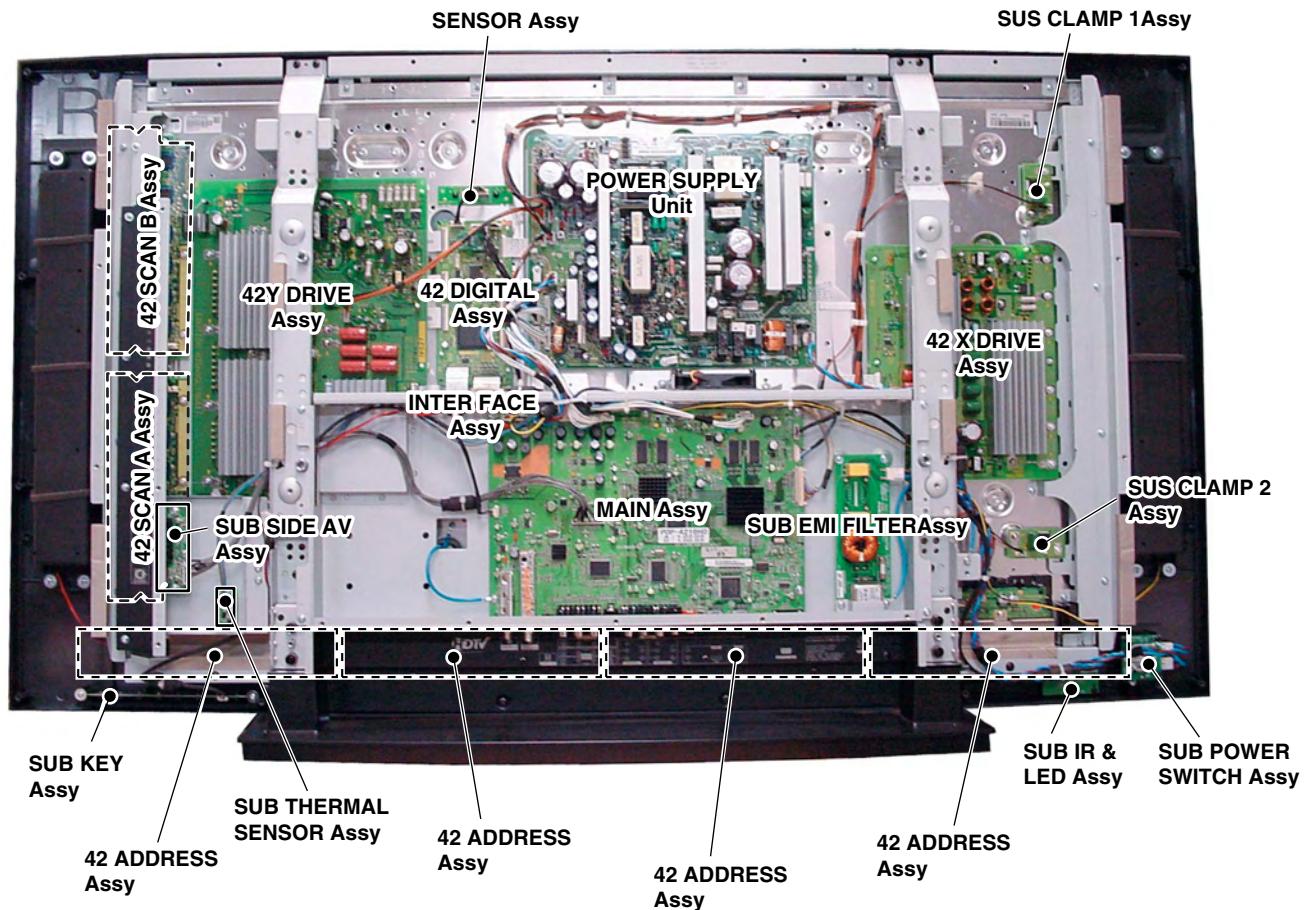
- PDP-5016HD



• Rear view

• PDP-4216HD

A



• Rear view

## 6.2 CHART OF REMOVAL ORDER FOR THE MAIN PARTS AND BOARDS

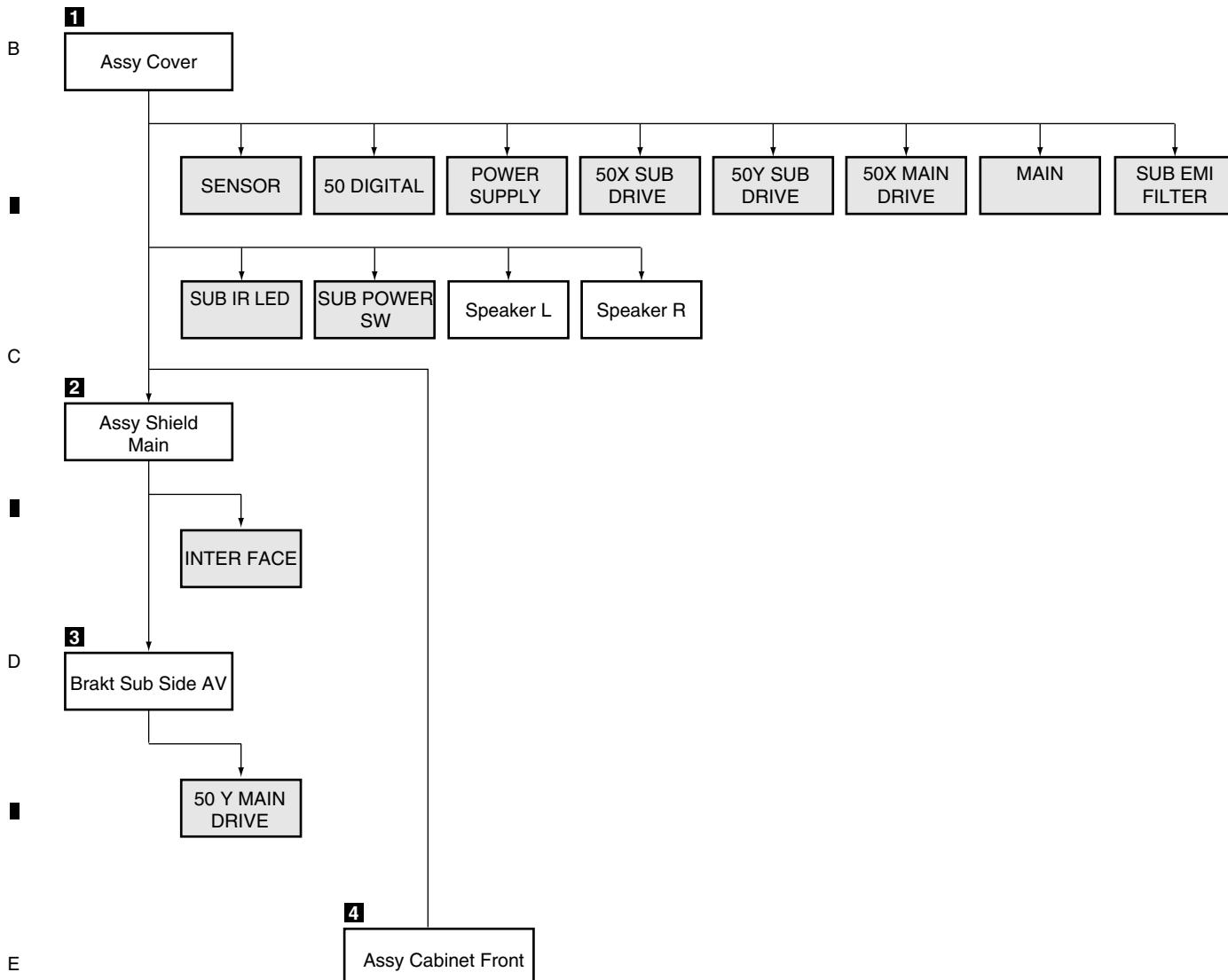
### 6.2.1 DISASSEMBLY (PDP-5016HD)

A **Note:** Even if the unit shown in the photos and illustrations in this manual may differ from your product, the procedures described here are common.

#### Chart of removal order for the main parts and boards

It is efficient to proceed with removal of the main parts and boards in the order shown in the chart below:

- PDP-5016HD

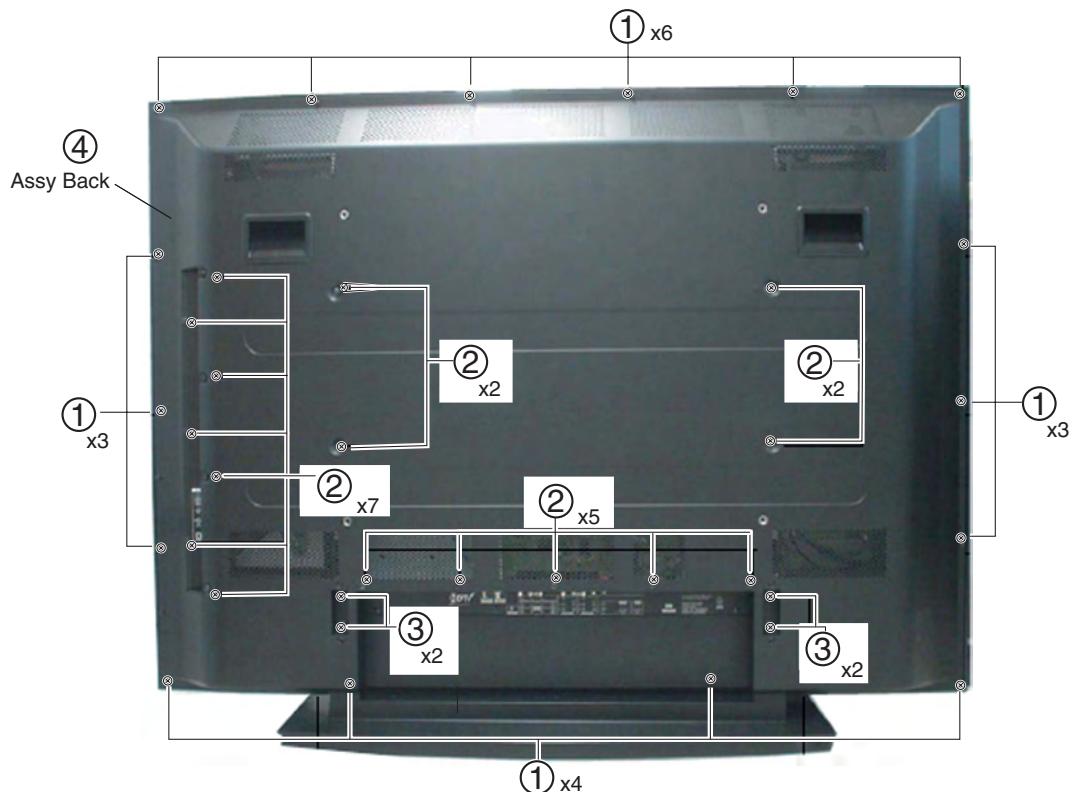


## Disassembly

### • PDP-5016HD

#### 1 Back Cover (Assy Back)

- ① Remove the 16 screws.
- ② Remove the 15 screws
- ③ Remove the 5 screws
- ④ Remove the Assy Back



A

B

C

D

E

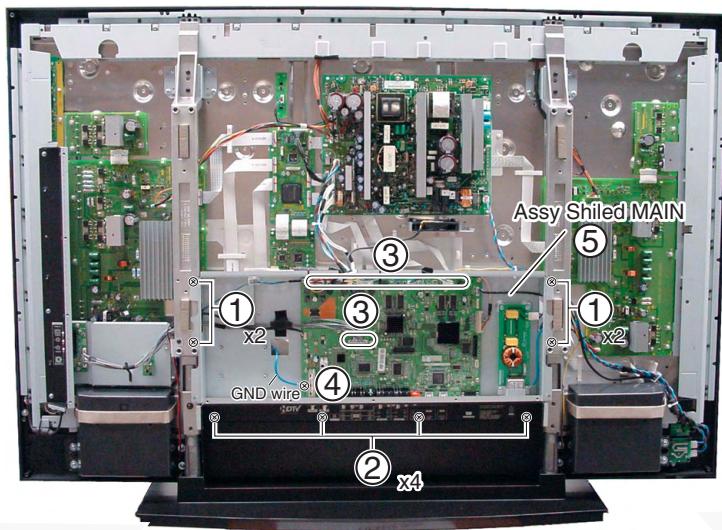
F

## A Disassembly

### • PDP-5016HD

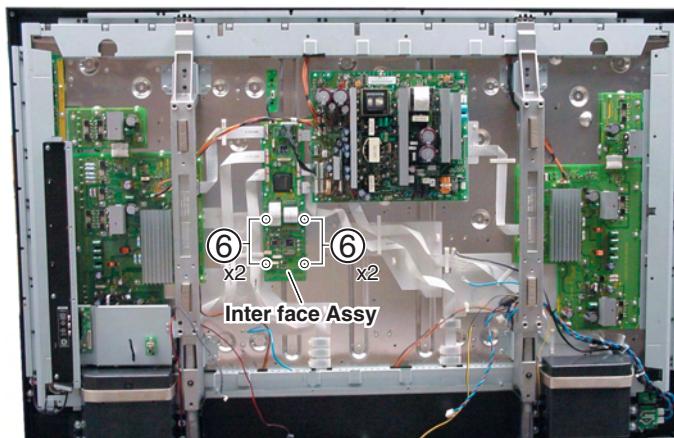
#### 2 Assy Shiled MAIN

- ① Remove the 4 screws.
- ② Remove the 4 screws.
- ③ Disconnect the some connectors
- ④ Remove the the 1 screw. (GND wire)
- ⑤ Remove the Assy Shield MAIN.



#### • Inter Face Assy

- ①-⑤ Remove the Assy Shield MAIN (refer to "2 Assy Shield MAIN").
- ⑥ Unhook the 4 spacer



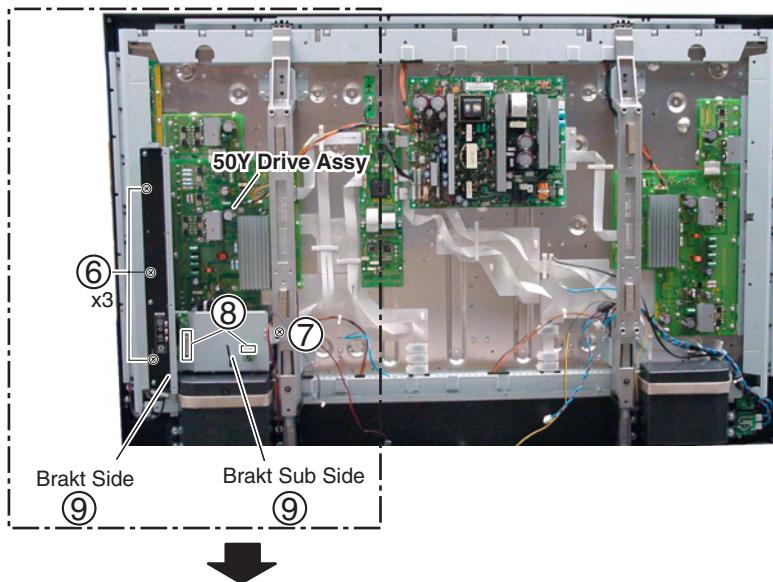
## Disassembly

### • PDP-5016HD

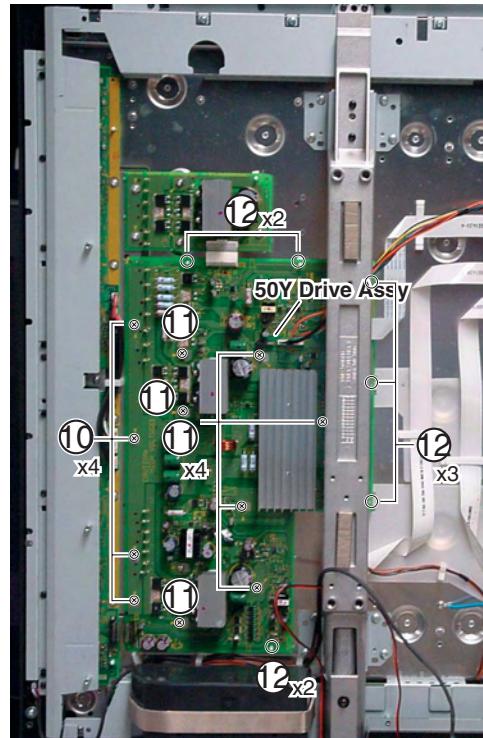
#### 3 Brakt Sub Side AV

##### • 50Y Drive Assy

- ①-⑤ Remove the Assy Shield MAIN (refer to "2Assy Shield MAIN").
- ⑥ Remove the 3 screws.
- ⑦ Remove the 1 screw.
- ⑧ Disconnect the 2 connectors.
- ⑨ Remove the Brakt Side and Brakt Sub Side.



- ⑩ Remove the 4 screws.
- ⑪ Remove the 7 screw.
- ⑫ Unhook the 6 hooks.



A

B

C

D

E

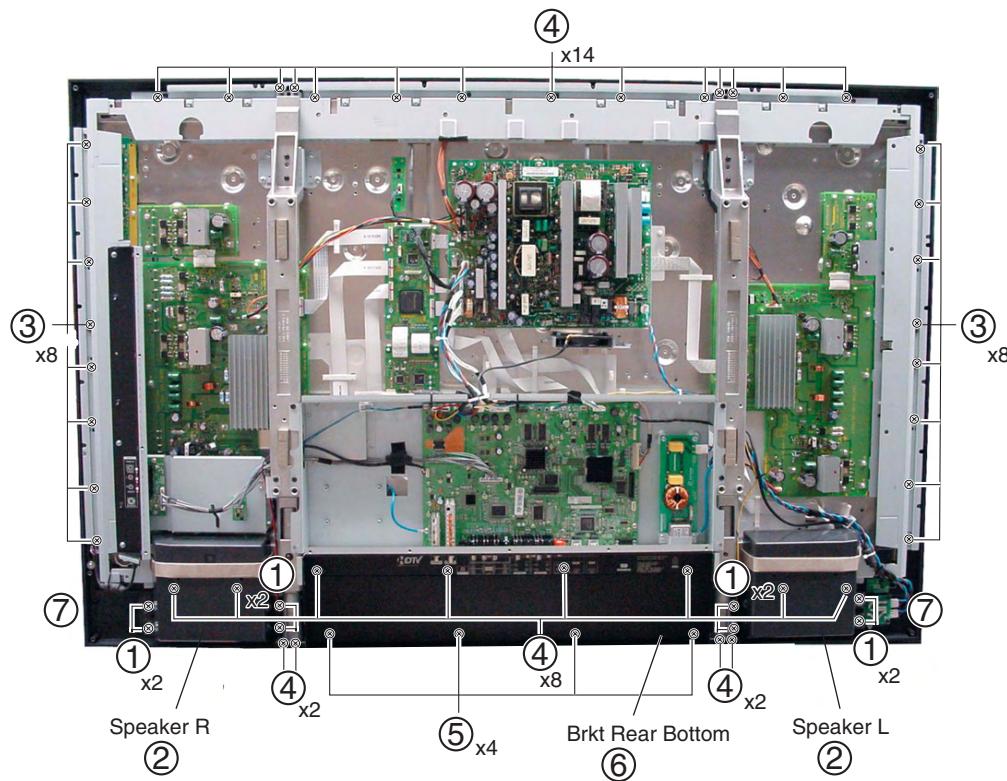
F

## A Disassembly

- PDP-5016HD

### 4 Assy Cabinet Front

- ① Remove the 8 screws. (Speaker L and Speaker R)
- ② Remove the Speaker L and Speaker R.
- ③ Remove the 16 screws.
- ④ Remove the 26 screws.
- ⑤ Remove the 4 screws.
- ⑥ Remove the Brkt Rear Bottom.
- ⑦ Disconnect the some connectors. (SUB IR, SUB Power and SUB Key Assys)
- ⑧ Remove the Assy Cabinet Front



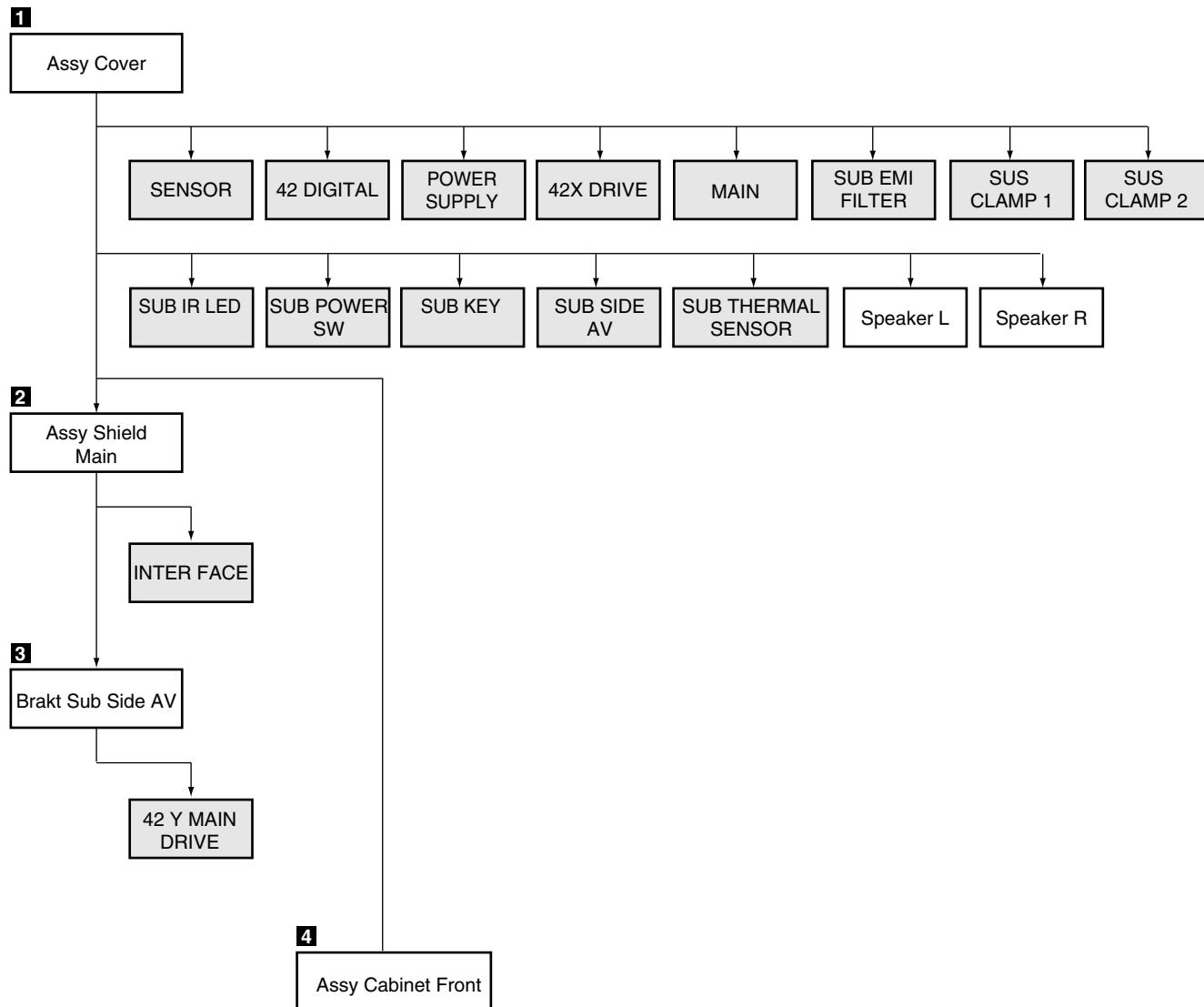
## 6.2.2 DISASSEMBLY (PDP-4216HD)

**Note:** Even if the unit shown in the photos and illustrations in this manual may differ from your product, the procedures described here are common.

### Chart of removal order for the main parts and boards

It is efficient to proceed with removal of the main parts and boards in the order shown in the chart below:

- PDP-4216HD

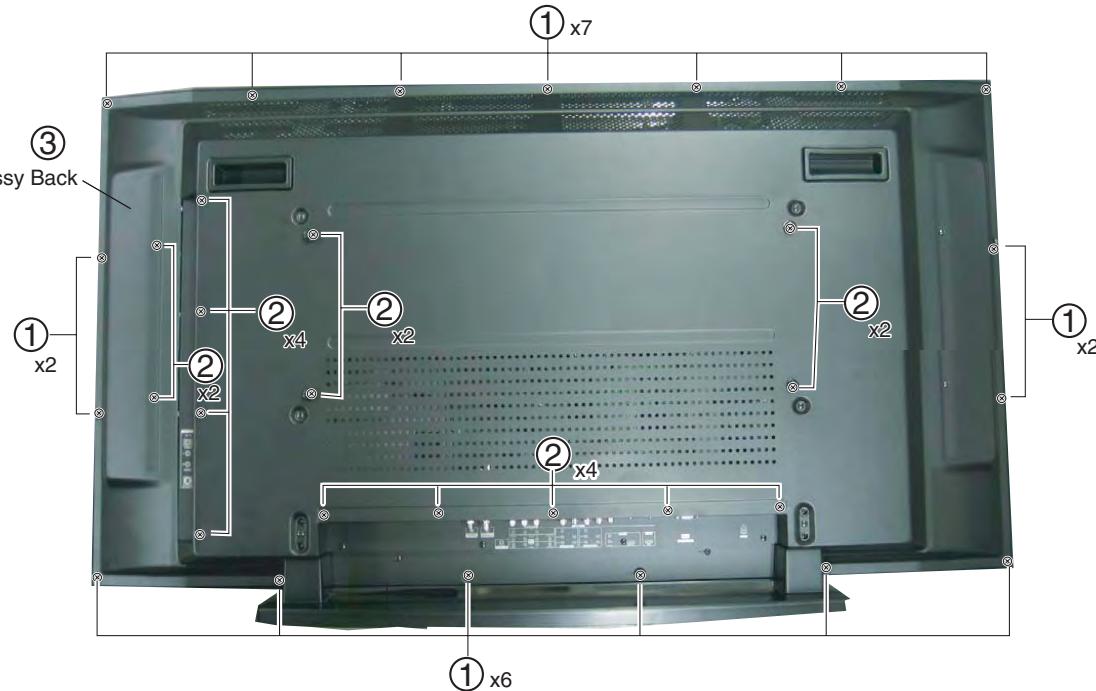


## Disassembly

### A • PDP-4216HD

#### 1 Back Cover (Assy Back)

- ① Remove the 17 screws.
- ② Remove the 16 screws
- ③ Remove the Assy Back



B

C

D

E

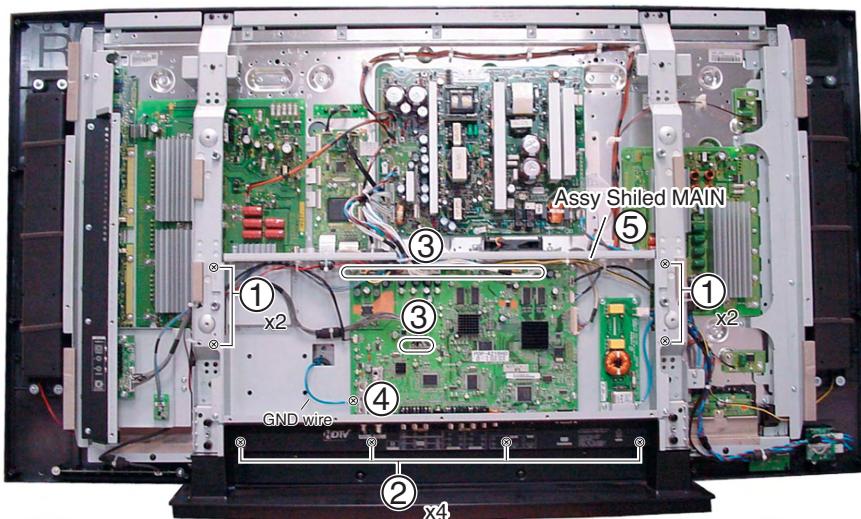
F

## Disassembly

### • PDP-4216HD

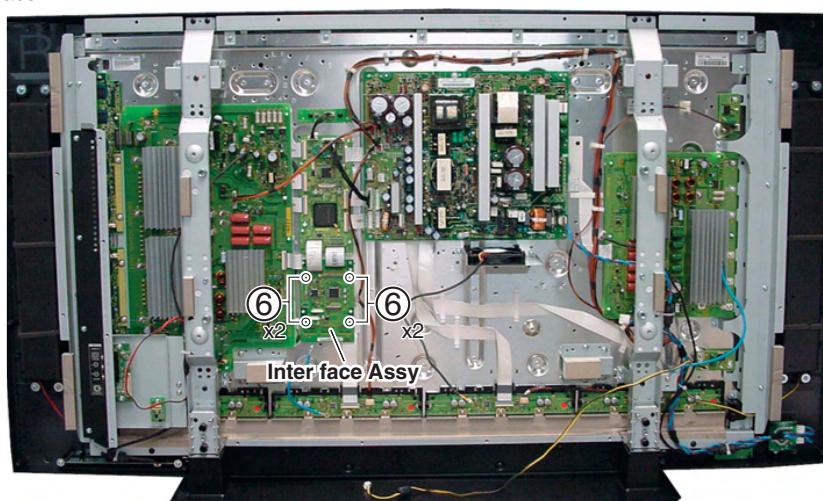
#### 2 Assy Shiled MAIN

- ① Remove the 4 screws.
- ② Remove the 4 screws.
- ③ Disconnect the some connectors
- ④ Remove the the 1 screw. (GND wire)
- ⑤ Remove the Assy Shield MAIN.



#### • Inter Face Assy

- ①-⑤ Remove the Assy Shield MAIN (refer to "2Assy Shield MAIN").
- ⑥ Unhook the 4 spacer



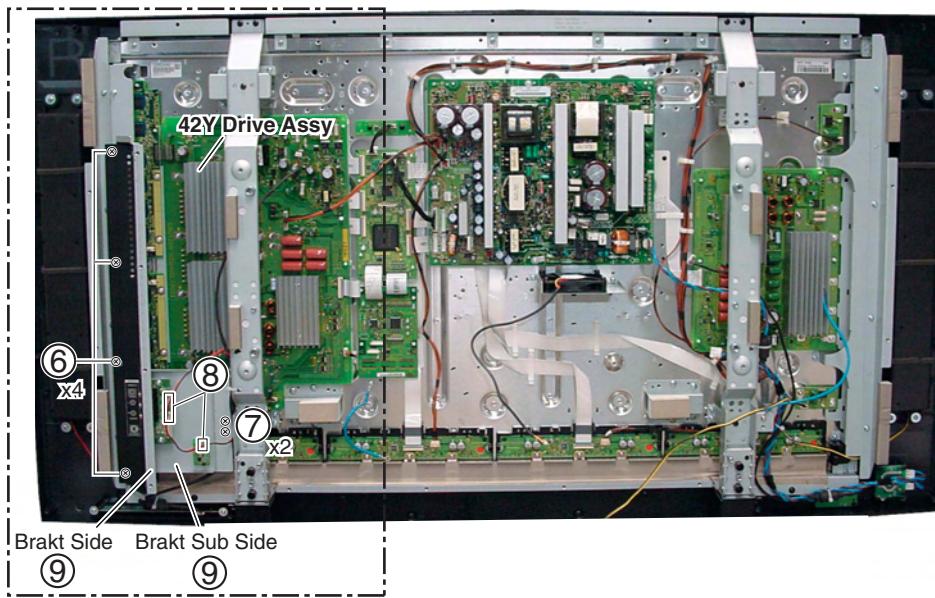
## A Disassembly

- PDP-4216HD

### 3 Brakt Sub Side AV

- 42Y Drive Assy

- ①-⑤ Remove the Assy Shield MAIN (refer to "2Assy Shield MAIN").
- ⑥ Remove the 3 screws.
- ⑦ Remove the 1 screw.
- ⑧ Disconnect the 2 connectors.
- ⑨ Remove the Brakt Side and Brakt Sub Side.



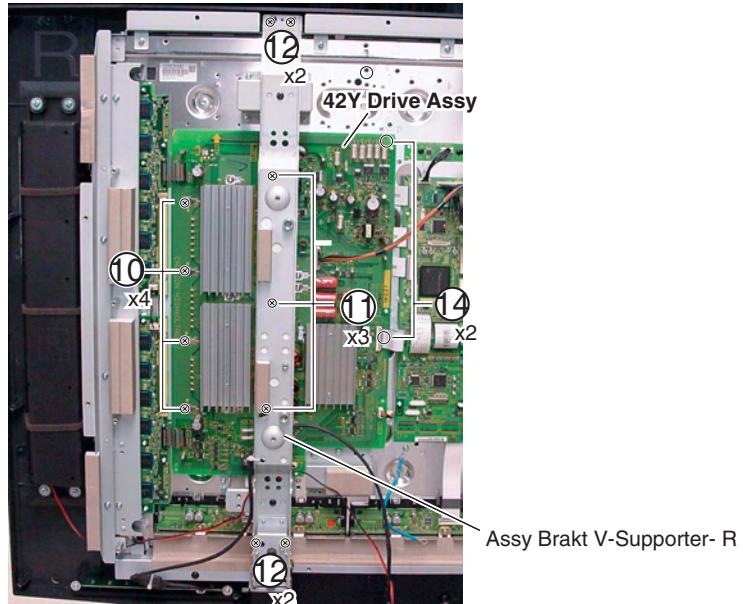
D ⑩ Remove the 4 screws.

⑪ Remove the 3 screw.

⑫ Remove the 4 screw.

⑬ Remove the Assy Brakt V-Supporter- R.

⑭ Unhook the 2 hooks.

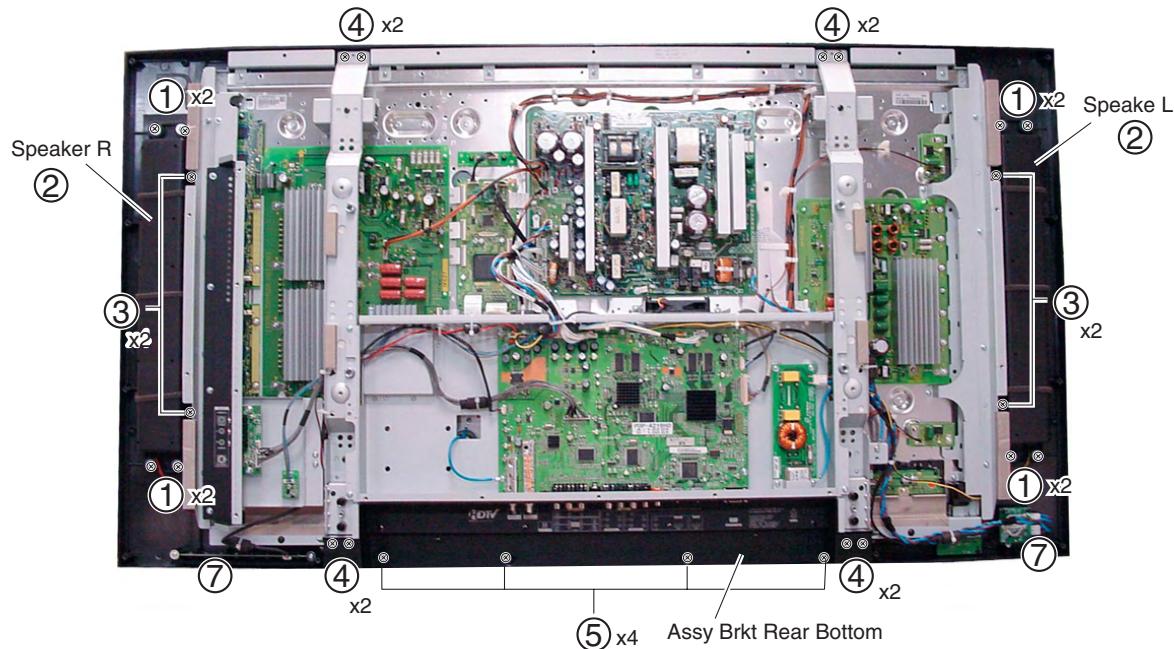


## Disassembly

### • PDP-4216HD

#### 4 Assy Cabinet Front

- ① Remove the 8 screws. (Speaker L and Speaker R)
- ② Remove the Speaker L and Speaker R.
- ③ Remove the 4 screws.
- ④ Remove the 8 screws.
- ⑤ Remove the 4 screws.
- ⑥ Remove the Assy Brkt Rear Bottom.
- ⑦ Disconnect the some connectors. (SUB IR, SUB Power and SUB Key Assys)
- ⑧ Remove the Assy Cabinet Front



# 7. ADJUSTMENT



A

- At shipment, the unit is adjusted to its best conditions. Normally, it is not necessary to readjust even if an assembly is replaced. If the adjustment is shifted or if it becomes necessary to readjust because of part replacement, etc., perform the adjustment as described below.
- Any value changed in Factory Menu/Module Adj. mode will be stored in memory as soon as it is changed. Before readjustment, take note of the original values for reference in case you need to restore the original settings.
- Use a stable AC power supply.

## 7.1 ADJUSTMENT REQUIRED WHEN THE SET IS REPAIRED OR REPLACED

### ■ When any of the following assemblies is replaced

B	POWER SUPPLY Unit	→ Refer to "7.3 HOW TO CLEAR HISTORY DATA".
	DIGITAL Assy	→ Writing of backup data is required. Refer to the "7.2 BACKUP WHEN THE PANEL UNIT IS ADJUSTED. "
	Service Panel Assy	→ Refer to "7.4 EXCHANGE OF SERVICE PANEL ASSY".
	INTERFACE Assy	→ No adjustment required
C	MAIN Assy	→ No adjustment required
	SUB IR&LED Assy	→ No adjustment required
	SUB KEY Assy	→ No adjustment required
	SUB SIDE AV Assy	→ No adjustment required
	SUB THERMAL SENSOR Assy	→ No adjustment required
D	SENSOR Assy	→ Writing of backup data is required. Refer to the "7.2 BACKUP WHEN THE PANEL UNIT IS ADJUSTEND".
<hr/>		
PDP-4216		
	42 X MAIN DRIVE Assy	→ No adjustment required
	42 X SUB DRIVE Assy	→ No adjustment required
	42 Y MAIN DRIVE Assy	→ No adjustment required
E	42 Y SUB DRIVE Assy	→ No adjustment required
<hr/>		
PDP-5016		
	50 X MAIN DRIVE Assy	→ No adjustment required
	50 X SUB DRIVE Assy	→ No adjustment required
	50 Y MAIN DRIVE Assy	→ No adjustment required
F	50 Y SUB DRIVE Assy	→ No adjustment required

## 7.2 BACKUP WHEN THE PANEL UNIT IS ADJUSTED

### ■ Outline

Adjustment data are stored in the EEPROM (IC3156/4K) on the DIGITAL Assy in the production process. Those adjustment data are also automatically stored in the EEPROM (for backup: IC3652) on the SENSOR Assy. If the DIGITAL Assy is replaced, those adjustment data for backup can be copied from the EEPROM on the SENSOR Assy to a new DIGITAL Assy.

### ■ Backed up data

- Drive voltage adjustment value
- Hour-meter count
- Pulse-meter count
- Panel white balance adjustment value
- Serial No.
- Drive waveform adjustment value
- P-ON counter value
- PD/SD histories

### ■ How to copy backup data

#### 1. When the DIGITAL Assy is replaced with one for service (usual service)

Adjustment data can be restored by copying the data backed up in the SENSOR Assy to the EEPROM on a new DIGITAL Assy.

The EEPROM on the new DIGITAL Assy has no adjustment data, and the EEPROM for backup in the SENSOR Assy has adjustment data.

##### • Copying, using the RS-232C commands

- ① Enter Module Adj. (Refer to "8. MODULE ADJUSTMENT MODE")
- ② RS232C command "FAY" is performed.
- ③ Issue the BCP command to transfer the data stored in the EEPROM for backup.
- ④ Turn the power off.

#### 2. When a secondhand DIGITAL Assy that had been mounted in another product is to be reused

As adjustment data for another product are already stored in the secondhand DIGITAL Assy, first delete those data then copy the backup data stored in the EEPROM on the SENSOR Assy.

##### • Copying, using the RS-232C commands

- ① Enter Module adj.. (Refer to "8. MODULE ADJUSTMENT MODE")
- ② RS232C command "FAY" is performed.
- ③ Issue the UAJ command to delete data stored in the EEPROM on the DIGITAL Assy.
- ④ Issue the BCP command to transfer the data stored in the EEPROM for backup.
- ⑤ Turn the power off.

#### 3. In a case where normal backup data are not stored in the backup EEPROM because the EEPROM on the DIGITAL Assy is defective, etc., and where manually adjusted values are to be applied to the product

**Note:** In this section, it is assumed that settings for various items have been completed, using RS-232C commands.

##### • Method using the RS-232C commands

Issue the FAJ command.

## 7.3 HOW TO CLEAR HISTORY DATA

### ■ Clearance of various logs after the Assys are replaced

A Besides adjustment data, data on accumulated power-on time and logs on defective parts of the product are backed up. Some of those data must be cleared after the Assys are replaced for service.

#### (1) Clearance of logs, using the RS-232C commands

Item	Content	When the Panel is replaced	When the POWER SUPPLY Unit is replaced	When the Other Assy is replaced	RS-232C Commands
Hour-meter	Accumulated power-on time	Must be cleared	No need to be cleared	No need to be cleared	CHM
Pulse-meter	Accumulated number of pulses emitted	Must be cleared (mandatory)	No need to be cleared	No need to be cleared	CPM
Shutdown history	Cause of an SD and hour-meter count	Must be cleared	No need to be cleared	No need to be cleared	CSD
Power-down history	Cause of an PD and hour-meter count	Must be cleared	No need to be cleared	No need to be cleared	CPD
Power-on counter	Relay-on count	No need to be cleared	Must be cleared (mandatory)	No need to be cleared	CPC
MAX TEMP	Historical max. temperature	Must be cleared	Must be cleared	Must be cleared	CMT

- B Notes:
- As the pulse-meter count is used for each correction function, it must be cleared when an Assy relevant to correction functions is replaced.
  - When clearing logs, using the RS-232C commands, first enter Factory mode (by issuing FAY or PFY), then issue the corresponding command.

C

D

E

F

## 7.4 EXCHANGE OF SERVICE PANEL ASSY

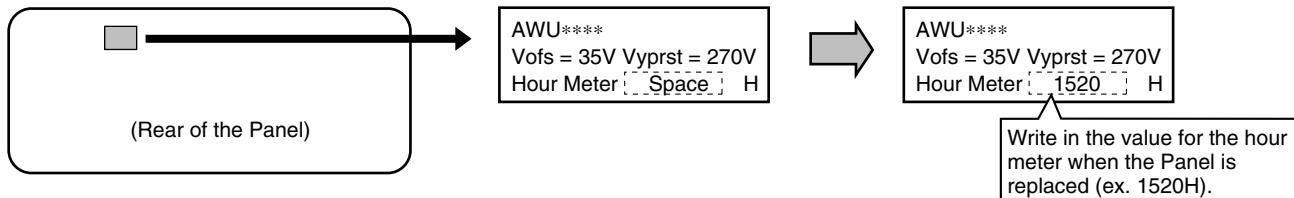
### 7.4.1 PDP-4216HD ADJUSTMENT WHEN THE SERVICE PANEL ASSY IS REPLACED

When the Panel Assy is replaced with one for service, the following adjustments are required:

#### ■ Adjustments of Vofs voltage and Vyprst voltage

Enter the reference adjustment values for the Vofs voltage and Vyprst voltage that are written on the label attached to the panel for service.

Note: Enter the values, using an RS-232C command.



Enter to "module adjust mode on" of the panel control in the factory menu before beginning the adjustment.

( refer to "8. service factory menu" on SM)

#### Using an RS-232C command

Enter Module Adj. mode (Refer to " 8. MODULE ADJSTMENT MODE").

Enter a "PFY" command with Factory mode ON.

Convert the adjustment voltage values written on the label attached at the rear of the Panel to an input command, referring to the conversion chart. (See the next page.)

- Reference adjustment of the Vofs voltage: Ex. "Vofs = 35" → (Check the conversion chart.) Enter "VOF112."
- Reference adjustment of the Vyprst voltage: Ex. "Vyprst = 270 V" → (Check the conversion chart.) Enter "VRP078."

#### ■ Clearing data on various histories of the Panel, such as those on the hour meter

- It is necessary to clear the data on the hour meter, etc. to match them to the actual driving hours of the Panel.
- It is also necessary to clear the data on SD and PD, because the accumulated power-on time when a shutdown or power-down occurred is recorded.

**Note:** Clear the values, using an RS-232C command.

#### Using an RS-232C command

To acquire the accumulated power-on time of the product itself, use the "QS2" of RS-232C command.

1. To clear the data on the hour meter (for the Panel) : CHM
2. To clear the data on the pulse meter : CPM
3. To clear the data on the SD history : CSD
4. To clear the data on the PD history : CPD

## ■ PDP-4216HD Conversion charts for electronic VRs (Vprst/Vofs)

A  
B  
C  
D  
E  
F

Vprst [V]	Setting value [STEP]
236	000
237	002
238	004
239	006
240	009
241	011
242	013
243	016
244	018
245	020
246	022
247	025
248	027
249	029
250	032
251	034
252	036
253	039
254	041
255	043
256	045
257	048
258	050
259	052
260	055
261	057
262	059
263	062
264	064
265	066
266	069
267	071
268	073
269	075
270	078
271	080
272	082
273	085
274	087
275	089
276	092
277	094
278	096
279	098

Vprst [V]	Setting value [STEP]
280	101
281	103
282	105
283	108
284	110
285	112
286	115
287	117
288	119
289	121
290	124
291	126
292	128
293	131
294	133
295	135
296	138
297	140
298	142
299	144
300	147
301	149
302	151
303	154
304	156
305	158
306	161
307	163
308	165
309	168
310	170
311	172
312	174
313	177
314	179
315	181
316	184
317	186
318	188
319	191
320	193
321	195
322	197
323	200

Vprst [V]	Setting value [STEP]
324	202
325	204
326	207
327	209
328	211
329	214
330	216
331	218
332	220
333	223
334	225
335	227
336	230
337	232
338	234
339	237
340	239
341	241
342	243
343	246
344	248
345	250
346	253
347	255

Vofs [V]	Setting value [STEP]
14	000
15	005
16	010
17	015
18	021
19	027
20	032
21	037
22	043
23	048
24	053
25	059
26	064
27	069
28	075
29	080
30	085
31	091
32	096
33	101
34	107
35	112
36	118
37	123
38	128
39	134
40	139
41	144
42	150
43	155
44	160
45	166
46	171
47	176
48	182
49	187
50	192
51	198
52	203
53	209
54	214
55	219
56	225
57	230

## ■ 7.4.2 PDP-5016HD ADJUSTMENT WHEN THE SERVICE PANEL ASSY IS REPLACED

### ■ Flowchart for panel replacement

A

After replacing the panel with one for service, readjustment of the Vofs voltage margin is required.

(Refer to "8. service factory menu" on SM)

#### [Preparations]

- The 60-Hz video sequence is used as the drive sequence.

#### [Supplement]

- If you perform adjustment using RS-232C commands, use the commands shown below.  
About entering Module Adj. mode, refer to " 8. MODULE ADJUSTMENT MODE".

B

PAV S00 : Used to set the Panel Drive mode to Factory.

VFQ S03 : Used to set the Drive Sequence to Video 60 Hz.

WBI S01 : Used to temporarily set the adjustment value of the Panel WB to default. (To return the value to its original value, use WBI S00.)

PGM S00 : Used to set the gamma setting to Factory.

**Note:** If the power is shut off in the process of the adjustment procedures, send the above commands again.

C

D

E

F

## Before start the Adjustment

1.This Service panel Assy is required to perform this Vofs adjustment. If this adjustment is not enough, some problems such as abnormal lit / dark cells will occur in the near future. Therefore be sure to perform this adjustment with this procedure.

### Preparation for Settings

1.Go to the **Module Adj. mode (Refer to "8. MODULE ADJUSTMENT MODE")** by remote control key (INPUT->0->9->1->7), refer to "8service factory menu" on SM.

2.Select the **Panel Control** in the **Factory Menu**

3.Select the **Module Adj Off -> On** in the **Panel Control**

4.Send [ **FAY** ] from PC , then send the following 232C command;

[PAVS00] [VFQS03] [WBIS01] [PGMS00] [MKSS51]

**NOTE:** It is necessary to use a PC and 232C cross cable for PDP module adjustment.

### Adjustment of Vsus, Vyprst and Vofs

-VOL SUS: Send [ **VSU137** ](Set Vsus data to 137(205V))

-VOL RST P: Change Vyprst voltage on panel label to data value -> Send [VRP\*\*\*] command (set that data)  
e.g.Vyprst on panel: 269V -> 059 data. See Convert Chart.)

-VOL OFFSET: Change Vofs voltage on panel label to data value -> set that data as pre-setting value with [ **VOF\*\*\*** ] command

### Preparation for adjustment

#### Display Full white MASK for 30 minutes

It is necessary to warm up panel temperature to prevent incorrect adjustment caused by a margin of panel temp error.

### Vofs adjustment START

(Red760) ↓ [ 232Commands ]

Send [ **MKSS59** ] : Display Red MASK

Send [ **VOF246** ] : Set Vofs data to 246 [60V]

### Definition of Abnormal Cells

Abnormal bright Cells: Five cells on screen  
( Only one cell within a radius of 1cm )

Abnormal dark Cells: Under fifteen cells on screen.  
( Under two cells within a radius of 1cm )

Count abnormal cells at a distance of 1m from panel.  
If abnormal cells won't occur longer than one second,  
do not count the abnormal cells.  
Do not count still bright cells and dark cells

Are there any dark cells

No

→ **Vofs\_max1 = 246 [60V]**

Yes

Decrease Vofs data one volt by one volt  
until dark cells disappear.  
But, lower limit Vofs is 005[15V])

Set Vofs data as the following order:  
[ **VOF246** ] -> [ **VOF240** ] -> [ **VOF235** ] ...  
(Refer to Vofs convert chart)

→ **Vofs\_max1 [data]**

[ **VOF\*\*\*** ] Write down Vofs\_max1 to above space

↓

Vofs\_max1 ≥ 118 [36V]? No

Check circuits ( Vofs voltage ) or  
replace this service panel

Yes

Send [ **VOF\*\*\*** ] : Set back Vofs pre-setting value

Send [ **MKSS51** ] : Display White MASK for 3 sec

(Red1023)

Send[ **MKSS69** ] : Change MASK to Red1023-

Send [ **VOF246** ] : Set Vofs data to 246 [60V]

- Note -  
There are several different colors in RGB MASKS.

( e.g. Red MASK has Red760, Red1023, and Red1023+)

It is necessary to use an appropriate MASK color for Vofs adjustment  
to find out abnormal dark cells easily.  
Therefore be sure to use correct MASK shown at this procedure.

Are there any dark cells

No

→ This Vofs becomes Vofs\_max2

Yes

Decrease Vofs data one volt by one  
volt until dark cells disappear.  
But, lower limit Vofs is 005 [ 15V ]

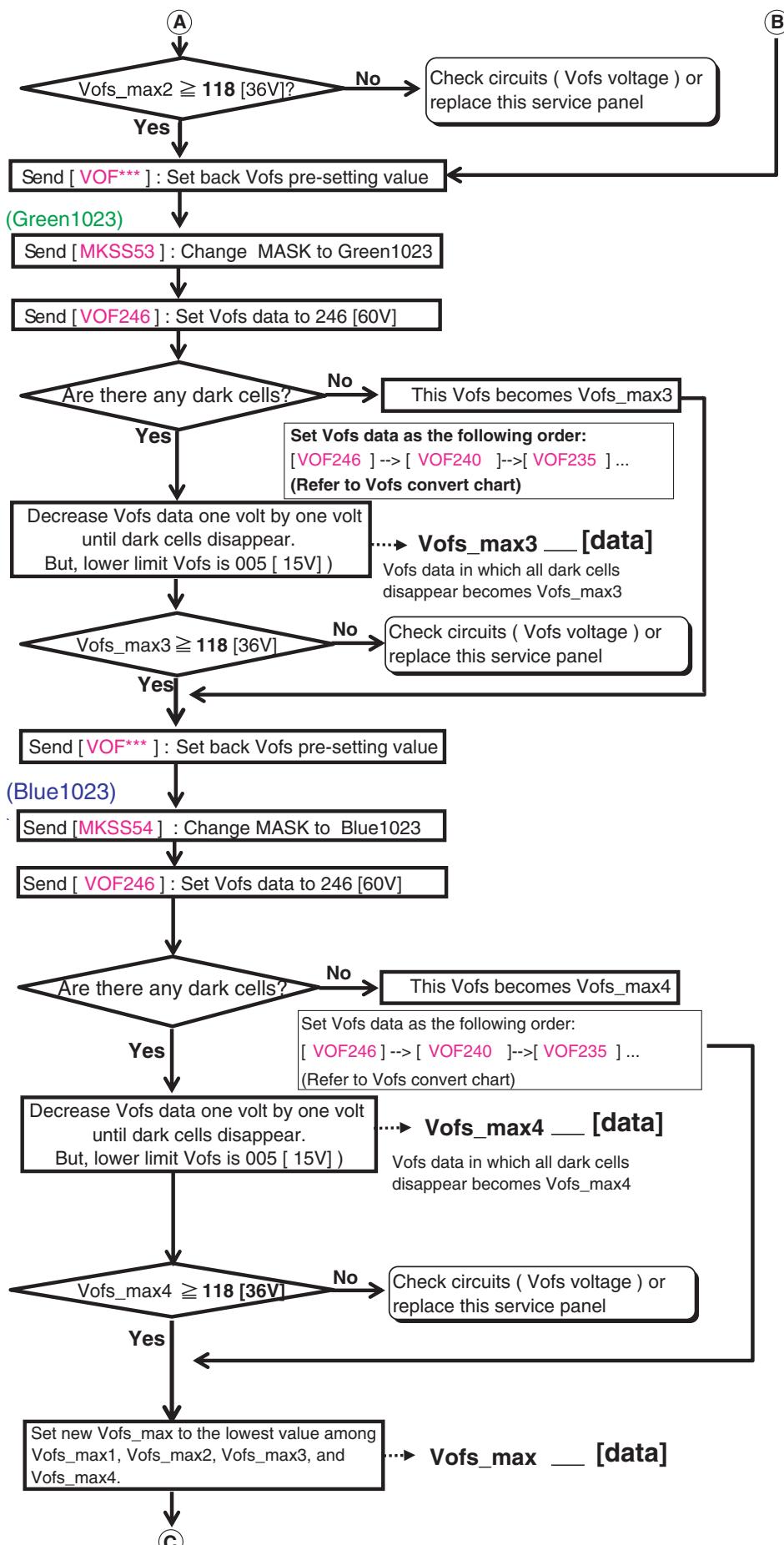
Set Vofs data as the following order:  
[ **VOF246** ] -> [ **VOF240** ] -> [ **VOF235** ] ...  
(Refer to Vofs convert chart)

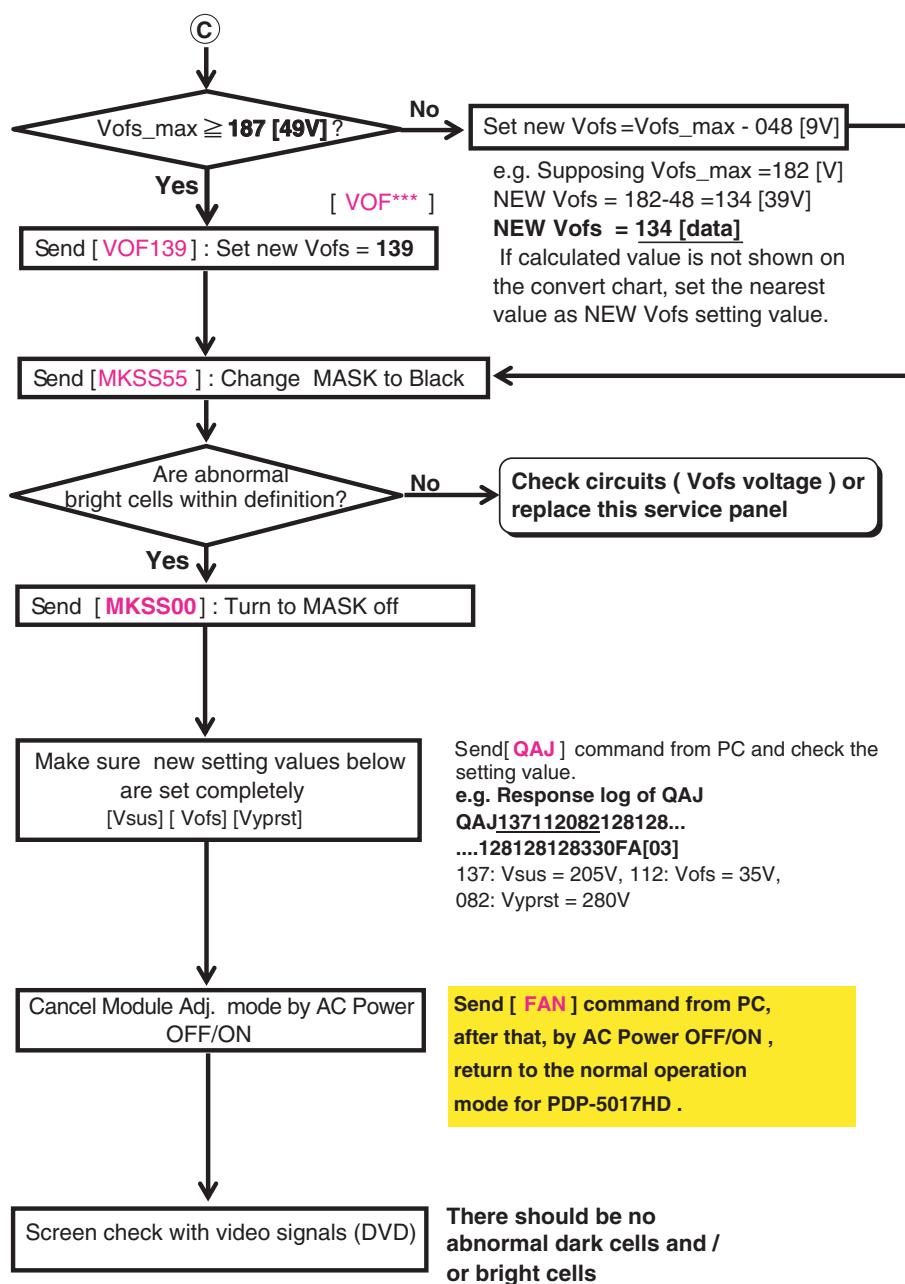
→ **Vofs\_max2 [data]**

Vofs data in which all dark cells  
disappear becomes Vofs\_max2

B

A





## ■ Conversion charts for electronic VRs (Vyprst/ Vofs)

Vofs Data vs. Voltage  
Convert Chart

Vofs Voltage [V]	Vofs data [STEP]
15	005
16	011
17	016
18	021
19	027
20	032
21	037
22	043
23	048
24	054
25	059
26	064
27	070
28	075
29	080
30	086
31	091
32	096
33	101
34	107
35	112
36	118
37	123
38	128
39	134
40	139
41	144
42	150
43	155
44	160
45	166
46	171
47	176
48	182
49	187
50	192
51	198
52	203
53	208
54	214
55	219
56	224
57	230
58	235
59	240
60	246

Vyprst Data vs. Voltage Convert Chart

Vyprst voltage [V]	Vyprst data [STEP]
250	013
251	015
252	018
253	020
254	022
255	024
256	027
257	029
258	031
259	034
260	036
261	038
262	040
263	043
264	045
265	047
266	050
267	052
268	054
269	056
270	059
271	061
272	063
273	066
274	068
275	070

Vyprst voltage [V]	Vyprst data [STEP]
276	073
277	075
278	077
279	079
280	082
281	084
282	086
283	089
284	091
285	093
286	096
287	098
288	100
289	102
290	105
291	107
292	109
293	112
294	114
295	116
296	119
297	121
298	123
299	126
300	128

### Note:

#### Date to Command Convert Method

Vofs: Add [VOF] before data value.  
e.g. Vofs = 55V -> Command **[VOF219]**  
Vyprst: Add [VRP] before data value.  
e.g. Vyprst = 275V -> Command **[VRP070]**

A

B

C

D

E

F

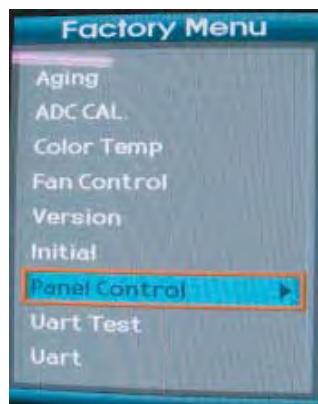
# 8. MODULE ADJUSTMENT MODE (PDP-4216HD, 5016HD)

## 8.1 OUTLINE OF THE MODULE ADJ. MODE

A

### ■ How to enter MODULE ADJ. MODE

- 1) Remote control operation procedure to shift to Factory Menu is opened by the following key operations.  
Push KEY sequentially as follows.  
**INPUT→0→9→1→7**  
Confirm that entered to Module Adj. mode with factory Menu screen below.
- 4) Method of connection from 232C terminal to PDP module u-com directly. (Adjustment mode for PDP module)  
Choose Panel Control of Factory Menu, and push ► key.

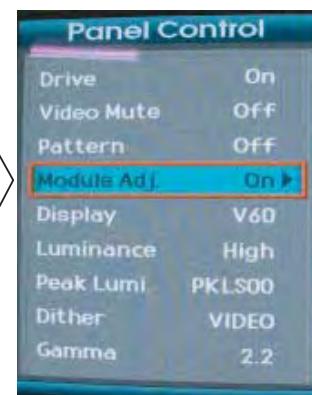
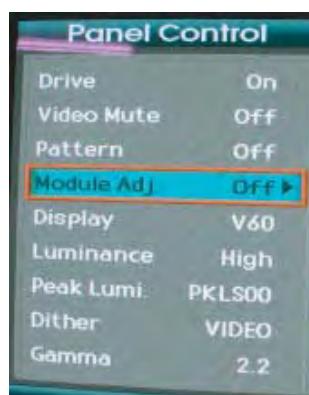


B

- 2) Method of confirm of firmware version  
Move the cursor to Version of Factory Menu.

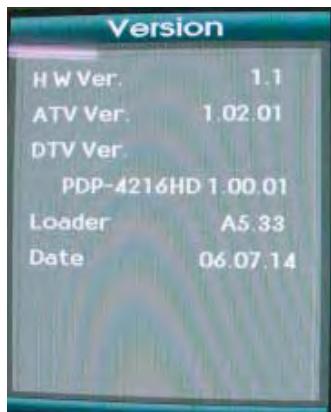


- 5) Choose Panel Control of Factory Menu and turn from " off " to " On " using ►key.



D

- 3) Push ► key of remote control. The Version is displayed on screen.



- In the below figure SW1 and SW2, are switched from A to B, and communication line of the PDP module u-com and In this condition, the command can send from the PC to the PDP module.

Return to the normal operation mode by AC power.

### Note 1

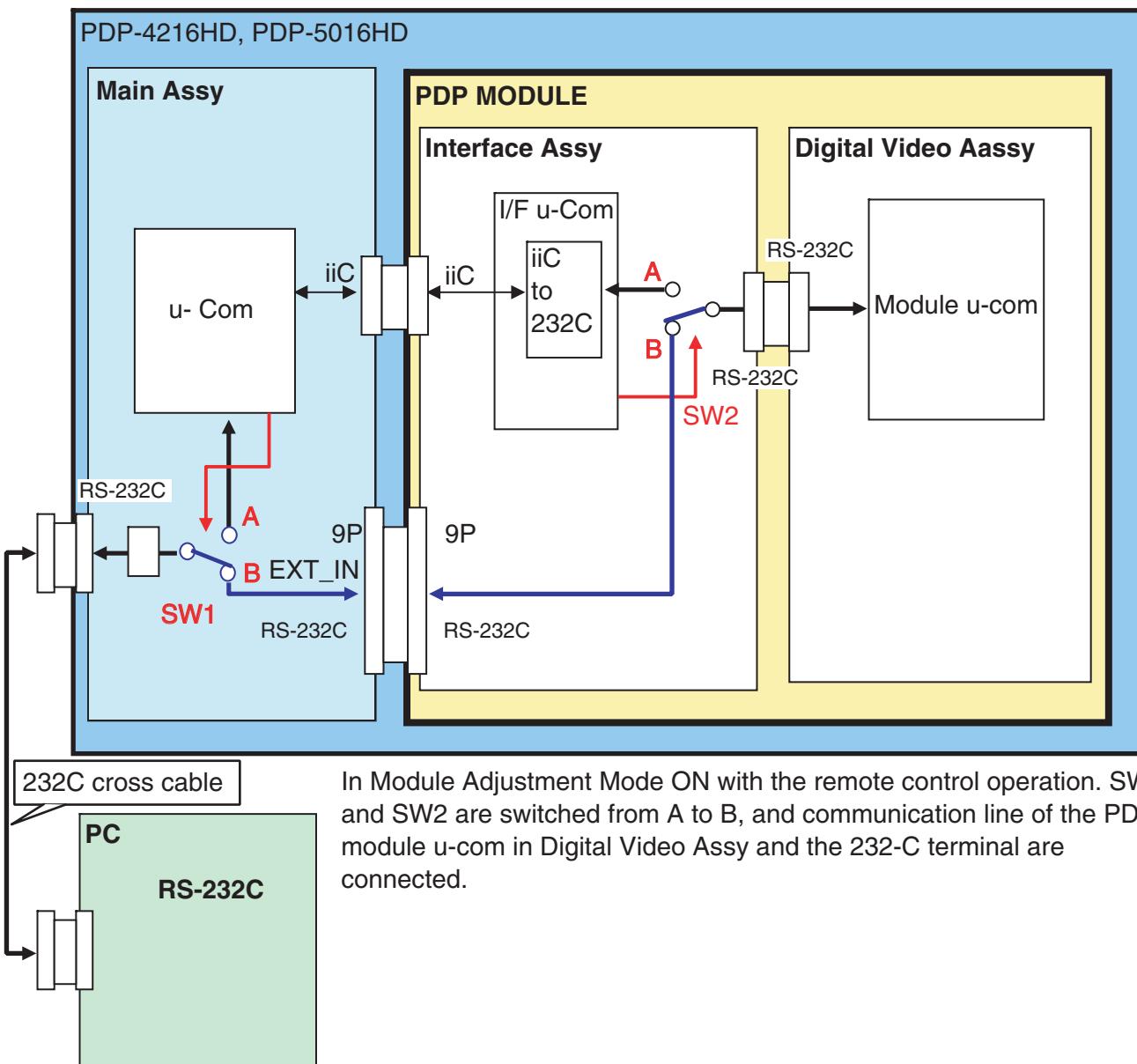
Should never change the other parameter of the factory menu, because there is possibility that the performance of the product can not be guaranteed.

E

- F Once you going to the Aging mode of the Factory mode which cannot be canceled by AC Power OFF/ON.  
To cancel the Aging mode execute "How to cancel when into Aging action by mistake" procedure.

Communication of Module Adjustment Mode ON

A



B

C

D

E

F

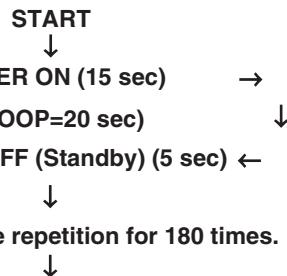
## ■ How to cancel when entered into Aging action by mistake

- A 1) Remote control operation procedure for shifting to Factory Menu  
 Open Factory Menu by operating following keys:  
**INPUT → 0 → 9 → 1 → 7**

Factory Menu opens as follows:



- B 2) When pressing ► key on remote control while a cursor is on "Aging",  
 Aging Mode is set and the following behavior is conducted.



- C After repeating 180 times, keep the Aging screen displayed.

D Note) Once Aging mode is set, the cancel release is not available even when AC power is either ON or OFF.  
 When the power is once turned OFF and then ON again, the behavior continues from the state just before it is turned OFF.  
 For cancelling forcibly, follow the steps below.

### ● How to leave Aging Mode

During Aging mode, operate the following with remote control.

**INPUT → 1 (Note 1)**

Leave Aging mode and Factory Menu opens.



E Leave Factory Menu using EXIT key on remote control.

F Note 1) Press INPUT key and the LED on power indicator turns on red and blue simultaneously (purple) (for about 1 second).  
 Press 1 key during that moment.  
 Operation of INPUT → 1 after interval of more than 1 second will not cancel Aging.

## 9. RS-232C

### 9.1 OUTLINE OF THE RS-232C

#### 9.1.1 PREPARED TOOLS

A

It is necessary to prepare the following one to use 232C command.

- PC
- Application for control
- 232C cable (cross)

\* It is likely not to move correctly in Win 98 faction/Me and Win for foreign countries.

\* The setting of the Com port cannot be communicated if it doesn't do correctly.

(Please follow a set explanation of PC in the Com port)

B

C

D

E

F

## 9.1.2 COMMAND PROTOCOL

### ■ Communication protocol : Asynchronous serial communication by RS-232C

A	Start bit length	: 1 bit
	Data width	: 8 bit (ASCII code/ no distinction between upper case and lower case)
	Parity	: None
	Stop bit length	: 1 bit
	Baud rate	: 1200/2400/4800/19200/38400 bps (Initial value : 9600 bps)

### ■ Adjustment function

Direct effectivity of numbers : When a number is transmitted after a command, an adjustment value can be directly set.

### ■ Data format

The format of the control signal transmitted from the user side controller is as described below.

STX (02Hex) is arranged at the time of communication start and ETX (03Hex) is arranged at the time of data transmission complete, and ID, command and parameter are arranged in between. Data consists of ASCII type alphanumeric characters, and there is no distinction between the upper case and the lower case.

B

■ In the case of command only  
[single function command]

STX	ID	Command	ETX
0x02	**	□□□	0x03

■ When setting/adjustment data is accompanied  
[setting/adjustment command]

STX	ID	Command	Parameter	ETX
0x02	**	□□□	△△△	0x03

### ■ Command processing

Command processing starts as soon as the command is entered.

ID shall be the two asterisks, " \*\*".

### ■ Confirmation of reception

The module microcomputer will make judgment to the command received from the main side, and if the command is judged to be an effective one, processing will be executed. When the system is in the standby status for the next command after completion of the processing, a reply to the received command is sent out. The data to be responded is a data in the upper case after deleting the ID code from the received command.

■ When setting/adjustment data is accompanied

Data transmitted from PC

STX	ID	Command	Parameter	ETX
0x02	**	□□□	△△△	0x03

Reply data

STX	Command	Parameter	ETX
0x02	□□□	△△△	0x03

■ In the case of command only

Data transmitted from PC

STX	ID	Command	ETX
0x02	**	□□□	0x03

Reply data

STX	Command	ETX
0x02	□□□	0x03

When responding, ERR is sent back if the command is unknown, and XXX is sent back if the command itself is valid but it cannot be processed because of its status.

■ In the case of invalid command

Data transmitted from PC

STX	ID	Command	ETX
0x02	**	□□□	0x03

Reply data

STX	Command	ETX
0x02	ERR	0x03

■ In the case of a command not executable due to its status

Data transmitted from PC

STX	ID	Command	ETX
0x02	**	□□□	0x03

Reply data

STX	Command	ETX
0x02	XXX	0x03

### ■ Processing in the case of an error

If a communication error occurs between STX and ETX, processing of that command is stopped, and the reception buffer is cleared.

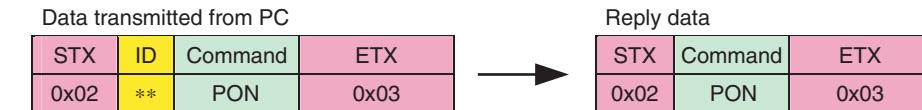
In the command reception process, the character string transmitted after the receipt of STX are continued to be stored in the register, and by receipt of ETX, the character string sandwiched between STX and ETX is recognized as a command. If the prepared character string storage buffer (24 bytes including STX, ID and ETX) is exceeded, a reply will not be sent out.

F

## 9.1.3 DEFINITION OF COMMAND

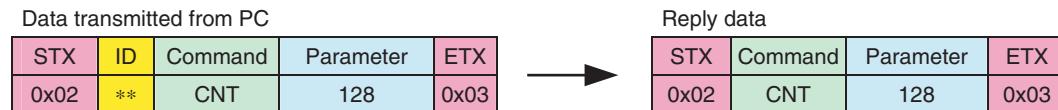
### ■Single function command

It is a command that a command alone will complete an operation, and the command section consists of three characters.



### ■Adjustment command and adjustment value

It is a command, accompanied by an adjustment value, to change the parameter value, and the command section is also three characters as in the case of a single function command. The adjustment value is a three character decimal numerical data within the range of 000-999. Incidentally, the adjustable range will be different depending on the function to be adjusted. (Be careful as it is not always up to 999.)

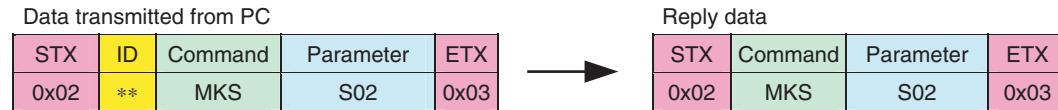


\* XXX will be transmitted if the received command is exceeding the adjustable range of the adjustment value.

\* When the same setting value is transmitted consecutively for two times or more, the setting is overwritten without responding with XXX even though the command is invalid, and an ACK after deleting the ID is sent back.

### ■Setting command and setting value

It is a command, accompanied by a setting value, to change the setting value of the parameter, and the command section consists of three characters. The setting value consists of three characters, and the first character is fixed to S and the remaining two characters are decimal numbers within the range of S00-S99.



\* XXX will be transmitted if the received command does not exist as a setting value.

\* When the same setting value is transmitted consecutively for two times or more, the setting is overwritten without responding with XXX even though the command is invalid, and an ACK after deleting the ID is sent back.

### ■Status acquisition (QUEST) command

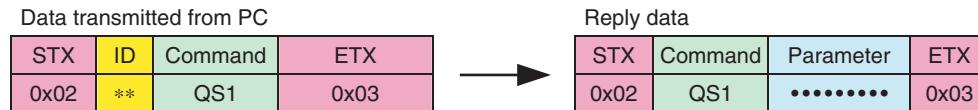
This is a command to report the operational status and the setting value to the system side.

When a command is received from the system side, an applicable content depending on the type of command is read out from the memory and sent back.

The command section consists of three characters, and the first character is fixed to Q. The second character and on are set depending on the content of the information.

When sending back a reply data, the received command, various data converted to ASCII code and checksum of that data are added and sent.

The data length will be subject to each individual specification as the content of a reply will be different depending on the type of QUEST command.



## 9.2 LIST OF RS-232C COMMANDS

RS-232C commands can be used in Service Module Adj. mode.

See "8. MODULE ADJUSTMENT MODE".

[Note ; If you want to see version information (ex. QS1), Please see 10 seconds after starting.]

### ■ RS-232C command list

Command Name	Function			Last Memory	Effective only in Factory mode	Remarks
<b>A</b>						
ABL ***	Adjusting the upper limit of the power		Mod	●		
APW	S00	WB correction interlocked with APL: OFF		●		
	S01	WB correction interlocked with APL: ON		●		
<b>B</b>						
BCP	Copying the backup data in the EEPROM			●		
<b>C</b>						
CBU	Clearing backup data of EEPROM			●		
CHM	Clearing data of the hour meter			●		
CNT	Clearing data of the maximum temperature			●		
CPC	Clearing power-on count data			●		
CPD	Clearing power-down history			●		
CPM	Clearing data of the pulse meter			●		
CSD	Clearing shutdown history			●		
CTM	Clearing working log			●		
<b>D</b>						
DRV	S00	Main power off				
	S01	Main power on				
<b>E</b>						
ESV	S00	Setting Power Consumption mode to normal sequence & normal curve				
	S01	Setting Power Consumption mode to silent sequence & normal curve				
	S02	Setting Power Consumption mode to silent sequence & power-saving curve				
	S10	Setting Power Consumption mode to normal sequence & normal curve				
	S11	Setting Power Consumption mode to silent sequence & normal curve				
	S12	Setting Power Consumption mode to silent sequence & power-saving curve				
<b>F</b>						
FAJ		Determining the flag of the DIGITAL Assy adjustment in "adjustment is completed"			●	
FAN		Factory mode off			●	
FAY		Factory mode on				
<b>M</b>						
MKC	S00	MASK off	Mod	●		
	S01	H ramp (slant 1) M	Mod	●		
	S02	H ramp (slant 4) M	Mod	●		
	S03	Slanting ramp M	Mod	●		
	S04	30 for aging	Mod	●		
	S05	05 for aging	Mod	●		
	S06	Erasing afterimage 1	Mod	●		
	S07	Erasing afterimage 2 (RGB: zigzag, V: reverse)	Mod	●		
	S08	White (change in luminance level)	Mod	●		
	S09	PEAK SEEK RASTER	Mod	●		
MKS	S10	For engineering use	Mod	●		
	S00	MASK off	Mod			
	S01	H ramp (slant 1)	Mod	●		
	S02	H ramp (slant 4)	Mod	●		
	S03	V ramp (slant 1)	Mod	●		
	S04	Slanting ramp	Mod	●		
F	S05	Window (Hi= 870, Lo= 102)	Mod	●		
	S06	Window (Hi= 1023, Lo= 102)	Mod	●		

Command Name	Function		Last Memory	Effective only in Factory mode	Remarks
<b>M</b>					
MKS	S07	Window (Hi= 1023)	Mod	●	
	S08	Window (Hi= 1023) 4 %	Mod	●	
	S09	Window (Hi= 1023) 1.25 %	Mod	●	
	S10	Window (1/7 LINE)	Mod	●	
	S11	STRIPE (MGT/GRN)	Mod	●	
	S12	STRIPE (GRN/MGT)	Mod	●	
	S13	B & W, checker (1 line)	Mod	●	
	S14	B & W, checker (2 lines)	Mod	●	
	S15	B & W, checker (4 lines)	Mod	●	
	S16	B & W, checker (8 lines)	Mod	●	
	S17	COLOR BAR	Mod	●	
	S18	Slanting lines	Mod	●	
	S19	Red & black, checker (1 line)	Mod	●	
	S20	Red & black, checker (2 lines)	Mod	●	
	S21	Red & black, checker (4 lines)	Mod	●	
	S22	Red & black, checker (8 lines)	Mod	●	
	S23	RGB zigzag, V reverse	Mod	●	
	S24	SUS 2000 pulses (black raster)	Mod	●	
	S25	Window (Hi= 870, Lo= 102) Pattern 3	Mod	●	
	S26	Window (Hi= 1023, Lo= 102) Pattern 3	Mod	●	
	S27	Window (Hi= 1023) Pattern 3	Mod	●	
	S28	Window (Hi= 1023) 4 % Pattern 3	Mod	●	
	S29	Window (Hi= 1023) 1.25 % Pattern 3	Mod	●	
	S30	Window (1/7 LINE) Pattern 3	Mod	●	
	S31	Noise ON - White	Mod	●	
	S32	Noise ON - Red	Mod	●	
	S33	Noise ON - Green	Mod	●	
	S34	Noise ON - Blue	Mod	●	
	S35	Noise ON - Black	Mod	●	
	S36	For engineering use	Mod	●	
	S37	For engineering use	Mod	●	
	S38	For engineering use	Mod	●	
	S39	For engineering use	Mod	●	
	S51	Raster - White	Mod	●	
	S52	Raster - Red	Mod	●	
	S53	Raster - Green	Mod	●	
	S54	Raster - Blue	Mod	●	
	S55	Raster - Black	Mod	●	
	S56	Raster - Cyan	Mod	●	
	S57	Raster - Magenta	Mod	●	
	S58	Raster - Yellow	Mod	●	
	S59	RASTER09: Red 588	Mod	●	
	S60	RASTER10: Cyan 460	Mod	●	
	S61	RASTER11: Green 774	Mod	●	
	S62	RASTER12: Gray 313	Mod	●	
	S63	RASTER13: Gray 912	Mod	●	
	S64	RASTER14: Magenta1023	Mod	●	
	S65	RASTER15: Pale orange	Mod	●	
	S66	RASTER16: Sky color	Mod	●	

A

Command Name	Function		Last Memory	Effective only in Factory mode	Remarks
<b>M</b>					
MKS	S67	RASTER17: Pale purple	Mod	●	
	S68	RASTER18: Magenta 54	Mod	●	
	S69	RASTER19: Red 1023+	Mod	●	
	S70	RASTER20: Green 1023+	Mod	●	
	S71	RASTER21: Blue 1023+	Mod	●	
	S72	RASTER22: Red 588+	Mod	●	
	S73	RASTER23: Green 588+	Mod	●	
	S74	RASTER24: Blue 588+	Mod	●	
<b>P</b>					
PAV	S**	Switching panel functions interlocked with the AV selection			
PBH	***	Panel white balance adjustment - Blue highlight	Mod	●	
PBL	***	Panel white balance adjustment - Blue low light	Mod	●	
PDM	S00	Passing PD signals to the Power SUPPLY Unit => Power-down			
	S01	Not passing PD signals to the Power SUPPLY Unit => No power-down			
PFN		Factory mode: off		●	
PFS		Setup at shipment		●	
PFY		Factory mode: on		●	
PGH	***	Panel white balance adjustment - Green highlight	Mod	●	
PGL	***	Panel white balance adjustment - Green low light	Mod	●	
PGM	S**	Setting of the gamma table			
PMT	S00	Canceling panel muting			
	S01	Panel muting			
PPT	S00	Panel protection: off		●	
	S01	Panel protection: on		●	
PRH	***	Panel white balance adjustment - Red highlight	Mod	●	
PRL	***	Panel white balance adjustment - Red low light	Mod	●	
<b>Q</b>					
QAJ		Acquiring various adjustment values			
QIP		Acquiring various input signal data			
QPD		Acquiring logs of power-down points			
QPM		Acquiring data of the pulse meter			
QPW		Acquiring panel white balance adjustment values			
QS1		Acquiring unit data, such as the software version common to all models, regardless of destination			
QS2		Acquiring data on the status of the unit, such as temperature			
QSD		Acquiring data on shutdown			
QSI		Acquiring data related with signals			
<b>R</b>					
RBL	S**	Setting of blue level for panel degradation correction	Mod	●	
RGL	S**	Setting of green level for panel degradation correction	Mod	●	
RRL	S**	Setting of red level for panel degradation correction	Mod	●	
RSW	***	Adjustment of the width of XY reset pulse 1	Mod	●	
RYW	***	Adjustment of the width of XY reset pulse 2	Mod	●	
<b>S</b>					
SDM	S00	Shutdown enabled			
	S01	Shutdown prohibited			
SFR	S01	Measures against AM radio noise - Pattern 1	Mod	●	
	S02	Measures against AM radio noise - Pattern 2	Mod	●	

Command Name	Function			Last Memory	Effective only in Factory mode	Remarks
<b>S</b>						
SFR	S03	Measures against AM radio noise - Pattern 3	Mod	●		
	S04	Measures against AM radio noise - Pattern 4	Mod	●		
	S05	Measures against AM radio noise - Pattern 5	Mod	●		
	S06	Measures against AM radio noise - Pattern 6	Mod	●		
	S07	Measures against AM radio noise - Pattern 7	Mod	●		
	S08	Measures against AM radio noise - Pattern 8	Mod	●		
SMM	S**	Setting of the effective area during streaking correction		●		
SN0	***	Setting of the serial No. 0 (panel)	Mod	●		
SN1	***	Setting of the serial No. 1 (panel)	Mod	●		
SN2	***	Setting of the serial No. 2 (panel)	Mod	●		
SN3	***	Setting of the serial No. 3 (panel)	Mod	●		
SN4	***	Setting of the serial No. 4 (panel)	Mod	●		
<b>T</b>						
-		-				
<b>U</b>						
UAJ		Determining the flag for the DIGITAL Assy adjustment in "not adjusted"				
<b>V</b>						
VFQ	S01	Setting the frequency in Mask mode to VD-48 Hz	Mod	●		
	S02	Setting the frequency in Mask mode to VD-50 Hz	Mod	●		
	S03	Setting the frequency in Mask mode to VD-60 Hz	Mod	●		
	S05	Setting the frequency in Mask mode to VD-72 Hz	Mod	●		
	S06	Setting the frequency in Mask mode to VD-75 Hz	Mod	●		
	S13	Setting the frequency in Mask mode to PC-60 Hz	Mod	●		
	S14	Setting the frequency in Mask mode to PC-70 Hz	Mod	●		
	S22	Setting the frequency in Mask mode to VD-50 Hz (nonstandard)	Mod	●		
	S23	Setting the frequency in Mask mode to VD-60 Hz (nonstandard)	Mod	●		
	S25	Setting the frequency in Mask mode to VD-72 Hz (nonstandard)	Mod	●		
	S26	Setting the frequency in Mask mode to VD-75 Hz (nonstandard)	Mod	●		
VOF	***	Adjustment of the reference value of Vofs voltage		●		
VRP	***	Adjustment of the reference value of Vrst-p voltage		●		
VSU	***	Adjustment of the reference value of Vsus voltage		●		
<b>W</b>						
WBI	S00	Panel WB standard output mode: off		●		
WBI	S01	Panel WB standard output mode: on		●		
<b>X</b>						
XSB	***		Mod	●		
<b>Y</b>						
YSB	***	Y-SUS-B ADJ	Mod	●		
YTB	***	Y-SUSTAIL T2 ADJ	Mod	●		
YTG	***	Y-SUSTAIL T1 ADJ	Mod	●		
YTW	***	Y-SUSTAIL W ADJ	Mod	●		
<b>Z</b>						
ZPR		Initializing the setting data to which no adjustment command is provided		●		

A

B

C

D

E

F

## 9.3 OUTLINE OF RS-232C COMMANDS

### 9.3.1 QS1

A Returning information on the module and the version of the software.

Format	Effective Condition	Function	Remarks
QS1	Every Time	Output of status	Reply Data : 105Byte

Order	Data	Size	Context
0	Received Command Name	3 byte	'QS1' only
1	Display Information 1	1 byte	
2	Display Information 2	1 byte	
3	Display Information 3	1 byte	
4	Display Information 4	1 byte	
5	Display Information 5	1 byte	
6	Boot Version of Module microcomputer.	3 byte	
7	Program Version of Module microcomputer.	8 byte	
8	Boot Version of Astra-MANTA.	3 byte	
9	Program Version of Astra-MANTA.	8 byte	
10	Sequence Version for VIDEO.	4 byte	
11	Sequence Version for PC.	4 byte	
12	Panal Type.	1 byte	
13	Reserved	7 byte	

C

D

E

F

### 9.3.2 QS2

#### ■ Acquisition of panel operation data ••• [QS2]

The command QS2 is for acquiring data on the panel's operational information.

Command Format	Effective Operation Modes	Function	Remarks
[QS2]	All operations	To acquire data on operations of the panel	Return data: 3 (ECO)+23(DATA)+2(CS)= 28 Byte

Data Arrangement		Data Length	Output Example
ECO		3 Byte	QS2
1	Notification of mode shifting to STB	1 Byte	1
2	Flag for adjustment of the main unit	1 Byte	0
3	Flag for adjustment-data backup	1 Byte	0
4	"1st PD" data	1 Byte	0
5	"2nd PD" data	1 Byte	0
6	Still picture detection	1 Byte	0
7	Reserved	2 Byte	**
8	Temperature data (TEMP 1)	3 Byte	128 (*1)
9	SD main data	1 Byte	0
10	SD sub data	1 Byte	0
11	Operation status induced by SD	1 Byte	0
12	Data from the hour meter	8 Byte	00000259 (*2)
13	MASK indication	1 Byte	0
CS		2 Byte	4A

Note : (\*1) The unit scale is centigrade. The data is A/D value from the thermal sensor.

(\*2) "00000259" of "Data from the hour meter" means 2 hours 59 minutes.

6: Still picture detection	
0	Normal screen
1	Still picture

9: SD main data	
0	No SD
1	SQ-IC
2	MDU-IIC
3	RST2
4	TEMP

10-1: SD-Sub (SQ-IC)	
0	No SD-Sub data
1	Communication error
2	Drive stop
3	BUSY
6	Version mismatching

1: Notification of mode shifting to Standby	
0	Entering Standby mode failed
1	Entering Standby mode succeeded

4, 5: PD data	
0	No PD data
1	Not used
2	POWER
3	SCAN
4	SCN-5V
5	Y-DRV
6	Y-DCDC
7	Y-SUS
8	ADRS
9	X-DRV
A	X-DCDC
B	X-SUS
C	Not used
D	Not used
E	Not used
F	UNKNOWN

2: Adjustment of the main unit	
0	Adjustment completed
1	Adjustment not completed

3: Adjustment-data backup	
0	With backup data
1	No data (default)

10-2: SD-Sub (IIC)	
0	No SD-Sub data
1	EEPROM
2	BACKUP
3	DAC

10-3: SD-Sub (TEMP)	
0	No SD-Sub data
1	TEMP1
2	Reserved

11: Operation status induced by SD	
0	Normal
1	Relay-off completed
2	During warning indication

13: MASK indication	
0	MASK-OFF
1	MASK-ON

### 9.3.3 ACQUISITION OF OTHER DATA ON THE PANEL ••• [QIP]

- A The command QIP is for acquiring data on operational information of the panel.

Command Format	Effective Operation Modes	Function	Remarks
[QIP]	All operations	To acquire data on operations of the panel	Return data: 3 (ECO)+58(DATA)+2(CS)= 63 Byte

Data Arrangement		Data Length	Output Example
ECO		3 Byte	QIP
1	SERIAL	15 Byte	-----
2	HOUR METER	8 Byte	00000000
3	TOTAL HOUR METER	8 Byte	00000000
4	PON COUNTER	8 Byte	00000000
5	TEMP1 acquisition (Temperature value)	5 Byte	+23.5 (*1)
6	TEMPO acquisition (Temperature value)	5 Byte	+28.7 (*1)
7	MAX-TEMP1 acquisition (Temperature value)	5 Byte	+78.3 (*1)
8	Reserved	4 Byte	****
CS		2 Byte	94

Note  
(\*1) : Centigrade scale

### 9.3.4 ACQUISITION OF PANEL ADJUSTMENT DATA (COMMON DATA) ••• [QAJ]

- The command QAJ is for acquiring the panel's factory-preset data.

Command Format	Effective Operation Modes	Function	Remarks
[QAJ]	All operations	To acquire data on operations of the panel	Return data: 3 (ECO)+41(DATA)+2(CS)= 46 Byte

Data Arrangement		Data Length	Output Example
ECO		3 Byte	QAJ
1	V-SUS adjustment value	3 Byte	128
2	V-OFT adjustment value	3 Byte	128
3	V-RST-P adjustment value	3 Byte	128
4	Reserved	3 Byte	***
5	XSB adjustment value	3 Byte	128
6	YSB adjustment value	3 Byte	128
7	YTG adjustment value	3 Byte	128
8	YTW adjustment value	3 Byte	128
9	RSW adjustment value	3 Byte	128
10	YTB adjustment value	3 Byte	128
11	RYW adjustment value	3 Byte	128
12	R-REVISE setting value	1 Byte	0
13	G-REVISE setting value	1 Byte	0
14	B-REVISE setting value	1 Byte	0
CS		2 Byte	B7

- For each REVISE setting value, the level set for RRL, RGL, or RBL is transmitted as one character.

### 9.3.5 ACQUISITION OF ABL/WB ADJUSTMENT DATA ••• [QPW]

The command QPW is for acquiring the factory-preset data about the video of the panel.

Command Format	Effective Operation Modes	Function	Remarks
[QPW]	All operations	To acquire data on operations of the panel	Return data: 3 (ECO)+35(DATA)+2(CS)= 40 Byte
<b>Data Arrangement</b>		<b>Data Length</b>	<b>Output Example</b>
ECO		3 Byte	QPW
1	Drive sequence	3 Byte	60V
2	Standard/nonstandard	1 Byte	S
3	Type of ABL/WB tables	2 Byte	T2
4	ABL adjustment value	3 Byte	128
5	R-HIGH adjustment value	3 Byte	256
6	G-HIGH adjustment value	3 Byte	256
7	B-HIGH adjustment value	3 Byte	256
8	R-LOW adjustment value	3 Byte	512
9	G-LOW adjustment value	3 Byte	512
10	B-LOW adjustment value	3 Byte	512
11	Gamma setting	1 Byte	A
12	Streaking correction	1 Byte	1
13	Peripheral luminance correction	1 Byte	0
14	Reserved	1 Byte	*
15	WB interlocked with APL	1 Byte	0
16	Transition of protective operations	1 Byte	0
17	Reserved	2 Byte	**
CS		2 Byte	37

<b>1: Drive sequence</b>	
48V	Video 48 Hz
50V	Video 50 Hz
60V	Video 60 Hz
72V	Video 72 Hz
75V	Video 75 Hz
60P	PC 60 Hz
70P	PC 70 Hz

<b>12, 15: Setting for Items 12 and 15</b>	
0	OFF
1	ON

<b>13: Peripheral luminance correction</b>	
0	OFF
2	ON (interlocked with APL)

<b>16: Transition of brightness by protective operations</b>	
0	Upper limit state for brightness
1	Brightness being reduced
2	Lower limit state for brightness
3	Brightness being increased

<b>2: Standard/ nonstandard</b>	
S	Standard
N	Nonstandard

<b>3: Type of ABL/WB tables</b>	
Tn	n: 1 to 4

<b>11: Gamma setting</b>	
n	0 to F

### 9.3.6 ACQUISITION OF PULSE METER VALUE ••• [QPM]

The command QPM is for acquiring the accumulated number of pulses of the panel.

Command Format	Effective Operation Modes	Function	Remarks
[QPM]	All operations	To acquire data on operations of the panel	Return data: 3 (ECO)+40(DATA)+2(CS)= 45 Byte

<b>Data Arrangement</b>		<b>Data Length</b>	<b>Output Example</b>
ECO		3Byte	QPM
1	Pulse meter B 1	8Byte	00000000
2	Pulse meter B 2	8Byte	00000000
3	Pulse meter B 3	8Byte	00000000
4	Pulse meter B 4	8Byte	00000000
5	Pulse meter B 5	8Byte	00000000
CS		2Byte	E7

### 9.3.7 ACQUISITION OF PD LOGS ••• [QPD]

The command QPD is for acquiring data from the 8 latest power-down (PD) logs.

A

Command Format	Effective Operation Modes	Function	Remarks
[QPD]	All operations	To acquire data on the power-down logs	Return data: 3 (ECO)+80(DATA)+2(CS)= 85 Byte

B

Data Arrangement		Data Length	Output Example
ECO		3 Byte	QPD
1	Latest "1st PD" data	1 Byte	A
2	Latest "2nd PD" data	1 Byte	2
3	Data from the hour meter for the latest PD	8 Byte	00010020
4	Second latest "1st PD" data	1 Byte	E
5	Second latest "2nd PD" data	1 Byte	9
6	Data from the hour meter for the second latest PD	8 Byte	00008523
7	Third latest "1st PD" data	1 Byte	4
8	Third latest "2nd PD" data	1 Byte	3
9	Data from the hour meter for the third latest PD	8 Byte	00004335
10	Fourth latest "1st PD" data	1 Byte	2
11	Fourth latest "2nd PD" data	1 Byte	0
12	Data from the hour meter for the fourth latest PD	8 Byte	00000945
13	Fifth latest "1st PD" data	1 Byte	4
14	Fifth latest "2nd PD" data	1 Byte	0
15	Data from the hour meter for the fifth latest PD	8 Byte	00000715
16	Sixth latest "1st PD" data	1 Byte	A
17	Sixth latest "2nd PD" data	1 Byte	2
18	Data from the hour meter for the sixth latest PD	8 Byte	00000552
19	Seventh latest "1st PD" data	1 Byte	A
20	Seventh latest "2nd PD" data	1 Byte	0
21	Data from the hour meter for the seventh latest PD	8 Byte	00000213
22	Eighth latest "1st PD" data	1 Byte	D
23	Eighth latest "2nd PD" data	1 Byte	0
24	Data from the hour meter for the eighth latest PD	8 Byte	000001A7
CS		2 Byte	27

#### 1, 2, 4, 5: PD data

0	No PD
1	Not used
2	P-POWER
3	SCAN
4	SCN-5V
5	Y-DRIVE
6	Y-DCDC
7	Y-SUS
8	Address
9	X-DRIVE
A	X-DCDC
B	X-SUS
C	DIG-DCDC
D	Not used
E	Not used
F	UNKNOWN

E

F

### 9.3.8 ACQUISITION OF SD LOGS ••• [QSD]

The command QSD is for acquiring the data from the 8 latest shutdown (SD) logs.

Command Format	Effective Operation Modes	Function		Remarks
[QSD]	All operations	To acquire data on the shutdown logs		Return data: 3 (ECO)+80(DATA)+2(CS)= 85 Byte
Data Arrangement		Data Length	Output Example	
ECO		3Byte	QSD	
1	Latest SD data	1byte	1	
2	Latest SD subcategory data	1byte	0	
3	Data from the hour meter for the latest SD	8byte	00752013	
4	Second latest SD data	1byte	5	
5	Second latest SD subcategory data	1byte	0	
6	Data from the hour meter for the second latest SD	8byte	00495204	
7	Third latest SD data	1byte	2	
8	Third latest SD subcategory data	1byte	3	
9	Data from the hour meter for the third latest SD	8byte	00100355	
10	Fourth latest SD data	1byte	2	
11	Fourth latest SD subcategory data	1byte	5	
12	Data from the hour meter for the fourth latest SD	8byte	00075620	
13	Fifth latest SD data	1byte	1	
14	Fifth latest SD subcategory data	1byte	0	
15	Data from the hour meter for the fifth latest SD	8byte	00000852	
16	Sixth latest SD data	1byte	2	
17	Sixth latest SD subcategory data	1byte	5	
18	Data from the hour meter for the sixth latest SD	8byte	000000451	
19	Seventh latest SD data	1byte	0	
20	Seventh latest SD subcategory data	1byte	0	
21	Data from the hour meter for the seventh latest SD	8byte	00000000	
22	Eighth latest SD data	1byte	0	
23	Eighth latest SD subcategory data	1byte	0	
24	Data from the hour meter for the eighth latest SD	8byte	00000000	
CS		2Byte	7D	

● SD data	
0	No SD
1	SQ-IC
2	MDU-IIC
3	RST2
4	TEMP

● SD subcategory (SQ-IC)	
0	No SD-Sub data
1	Communication error
2	Drive stop
3	BUSY
6	Version mismatching

● SD subcategory (MDU-IIC)	
0	No SD-Sub data
1	EEPROM
2	BACKUP
3	DAC

● SD subcategory (TEMP)	
0	No SD-Sub data
1	TEMP1
2	Reserved

### 9.3.9 ACQUISITION OF INPUT SIGNAL DATA ••• [QSI]

The command QSI is for acquiring all data on input video signals.

A

Command Format	Effective Operation Modes	Function	Remarks
[QSI]	All operations	To acquire all data on input video signals	Return data: 3 (ECO)+66(DATA)+2(CS)= 71 Byte

B

Data Arrangement		Data Length	Output Example
ECO		3 Byte	QSI
1	Type of drive sequence	3 Byte	60V
2	Standard/nonstandard	1 Byte	S
3	Type of ABL/WB tables	2 Byte	T1
4	Total value of PCN	4 Byte	0256
5	Total value of PRH	4 Byte	0256
6	Total value of PGH	4 Byte	0256
7	Total value of PBH	4 Byte	0256
8	Total value of PBR	4 Byte	0512
9	Total value of PRL	4 Byte	0512
10	Total value of PGL	4 Byte	0512
11	Total value of PBL	4 Byte	0512
12	Total value of ABL	3 Byte	128
13	Detection of V frequency	4 Byte	6002
14	Detection of existence of H	1 Byte	Y
15	Reserved	3 Byte	***
16	Obtained APL data	4 Byte	1023
17	Number of SUS pulses	4 Byte	0457
18	Result of detection of still picture	1 Byte	1
19	Result of detection of cracking in the panel	1 Byte	1
20	Result of detection for scanning protection	1 Byte	1
21	Result of detection for external protection	1 Byte	1
22	Transition of protection operation	1 Byte	0
23	Reserved	4 Byte	****
CS		2 Byte	27

#### 14: Detection of existence of H

N	No H
Y	H detected

#### 18 to 20: Each protection operation status

0	Setting OFF
1	Setting ON (waiting)
2	Setting ON (during operation)

#### 22: Transition of brightness by protection operation

0	Upper limit state for brightness
1	Brightness being reduced
2	Lower limit state for brightness
3	Brightness being increased

E

F

### 9.3.10 SETTING FOR FACTORY MODE PERMISSION / PROHIBITION ••• [FAY / FAN]

#### ■ Setting for Factory mode permission/prohibition ••• [FAY/FAN]

The commands FAY/FAN are for prohibiting/permitting panel-adjustment commands.

A

Command Format	Operation		Remarks
	Effective Operation Modes	Control	
[FAY]	Normal operation mode while the power is on	Adjust command is valid.	Mask indications will be forcibly turned off.
[FAN]	During FAY	Adjust command is invalid.	

### 9.3.11 BACKUP FUNCTION FOR ADJUSTMENT VALUE FOR THE MAIN UNIT••• [FAJ / UAJ / CBU / BCP]

When the DIGITAL Assy is to be replaced, adjustment values can be copied from the backup EEPROM to the EEPROM of the Assy for service.

B

C

D

E

Command Format	Operation		Remarks
	Effective Operation Modes	Control	
[FAJ]	During FAY	To make the flag setting that indicating that adjustment of the panel unit has been completed	Writing 00 to the 4 k byte ROM and copying to the 2 k byte ROM
[UAJ]		To make the flag setting that indicating that adjustment of the main unit has not been completed	Writing F0 to the 4 k byte ROM
[CBU]		To make the flag setting that indicating that backup data have not been copied	Writing F0 to the 2 k byte ROM
[BCP]		To copy Digital backup data to EEPROM	Copying backup data

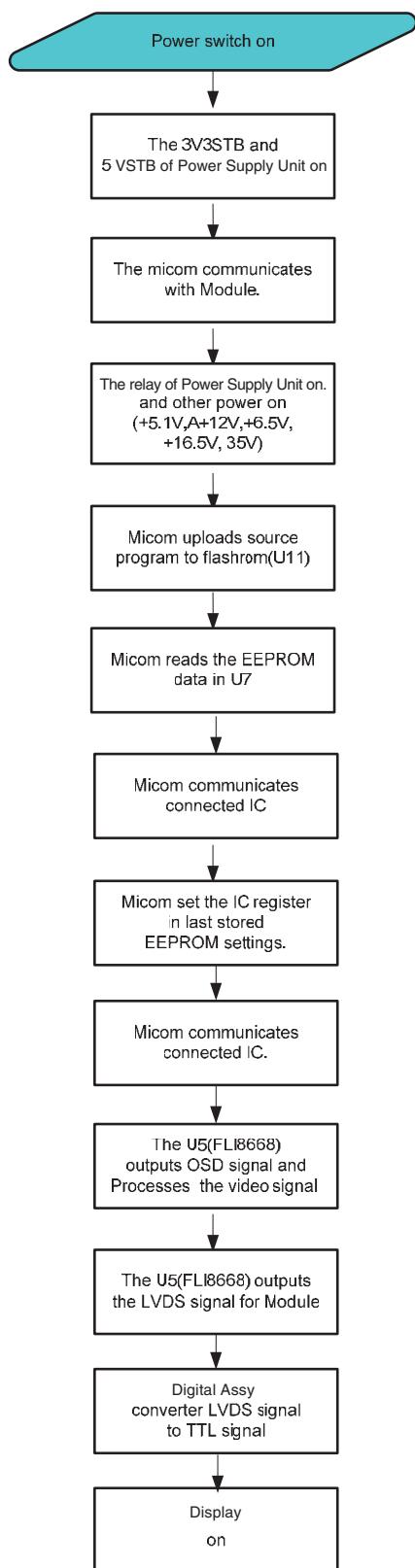
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# 10. GENERAL INFORMATION

## 10.1 OPERATION SEQUENCE

A

### 1) Power ON → Display On



1

2

3

4

1

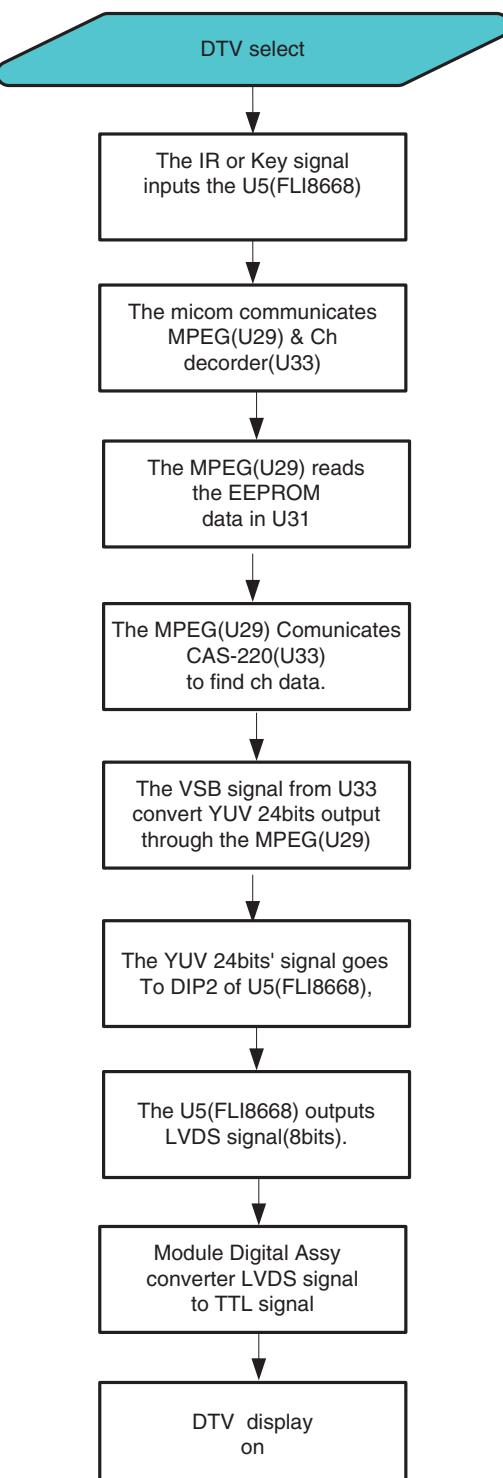
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3

4

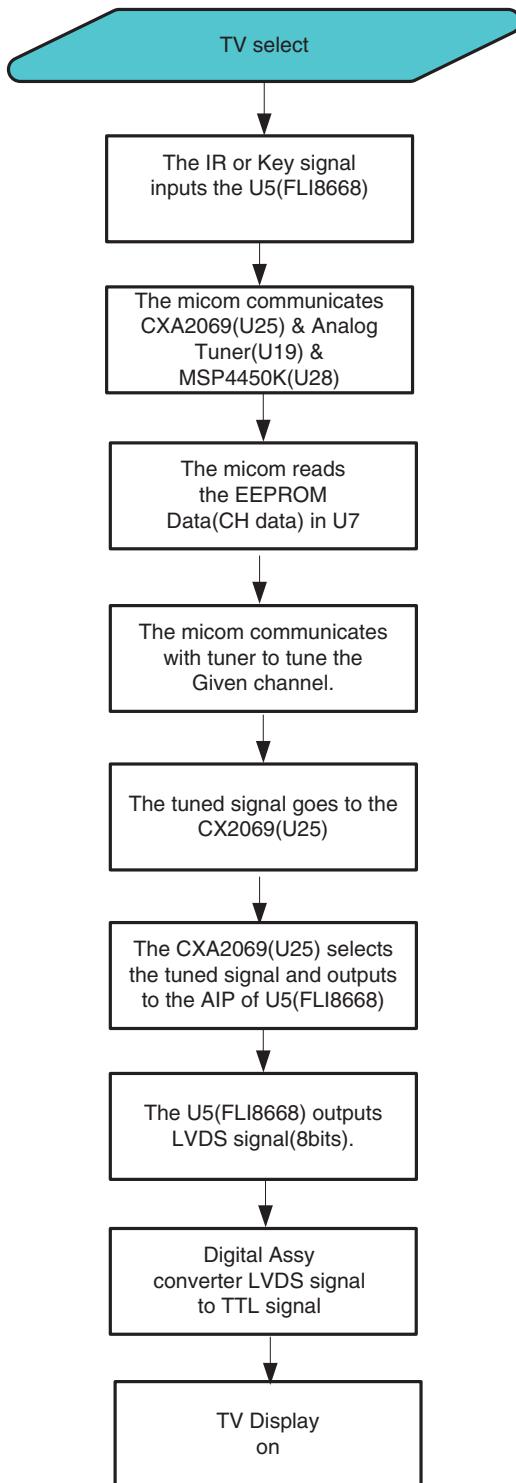
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### 2) DTV Mode Detection → DTV Display

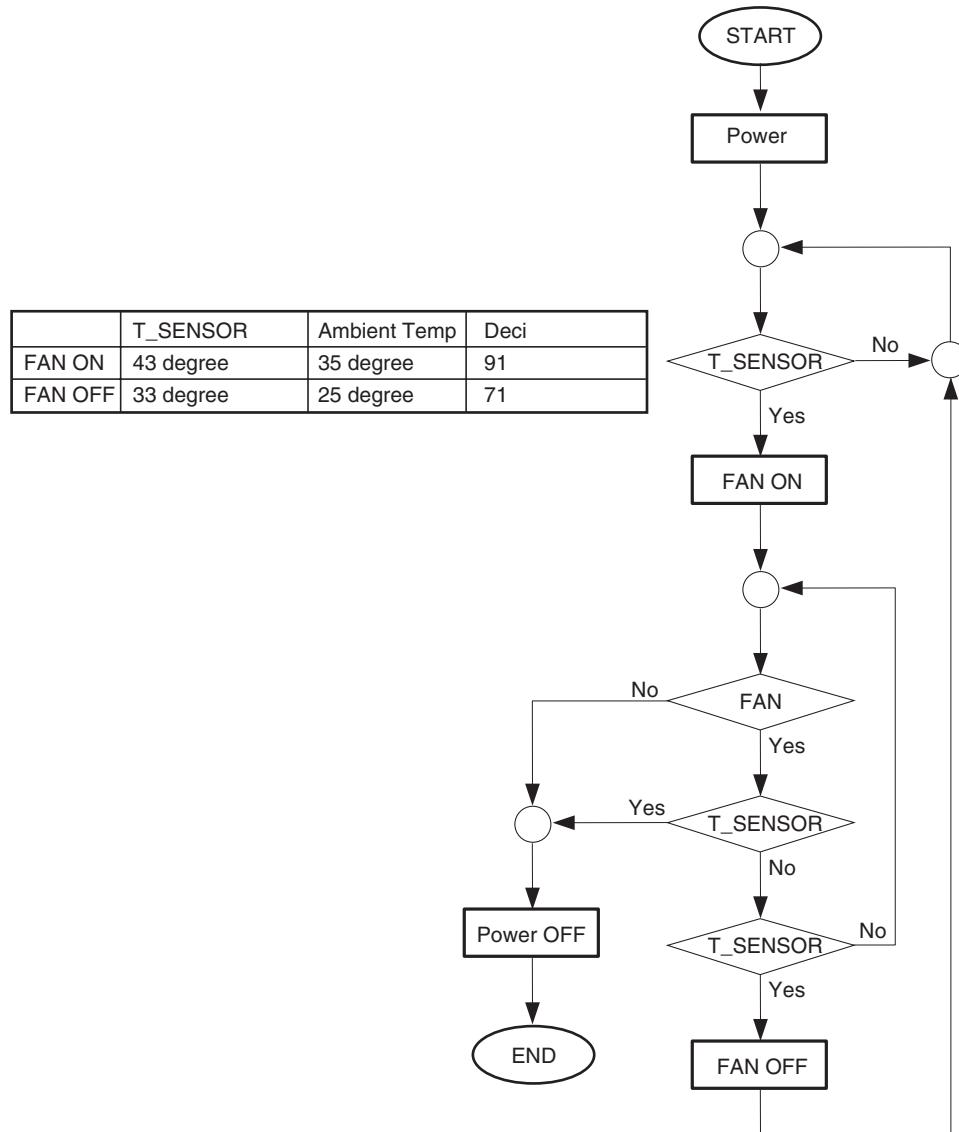


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3) DTV Mode Detection → DTV Display



A 4) Specification about the thermal protection



- Temperature sensor position



F

T\_SENSOR  
(Fan)

## 10.2 LED INFORMATION

### ■ Diagnosis of shutdown power down indicated by LEDs on INTERFACE Assy

No.	State		LED Pattern														
1	Standby (Power management)	Red lights	<b>Green</b>														
				<b>Red</b>													
2	• • • •																
3	Power ON	Green lights	<b>Green</b>														
				<b>Red</b>													
4	Wait for micro-computer rewriting		<b>Green</b>	100 msec	Green	100 msec	Red	100 msec	Red	100 msec	Red	100 msec	Red	100 msec	Red		
5	Shutdown	Green n times (0.5+2.5 sec)	<b>Green</b>	0.5 msec	Green	0.5 msec	Red	2.5 msec	Green	2.5 msec	Red	2.5 msec	Green	2.5 msec	Red		
6	Power down	Red n times (0.5+2.5sec)	<b>Green</b>		Red	0.5 msec	Red	2.5 msec	Red	0.5 msec	Red	2.5 msec	Red	0.5 msec	Red		

A

B

C

D

E

F

## 10.3 POWER ON/OFF FUNCTION FOR THE LARGE-SIGNAL SYSTEM

**A Function:** It is an operational mode where the digital signal processing performs circuit operation but the power is not supplied to the panel driving system (large signal system) in order to avoid a power down.

**Application:**

1. When it is necessary to check whether the signal output is correctly reaching the drive system in a repairing activity etc.
2. In the case of a PD, to determine whether the problem is with the large signal system power supply or with the small signal system power supply.

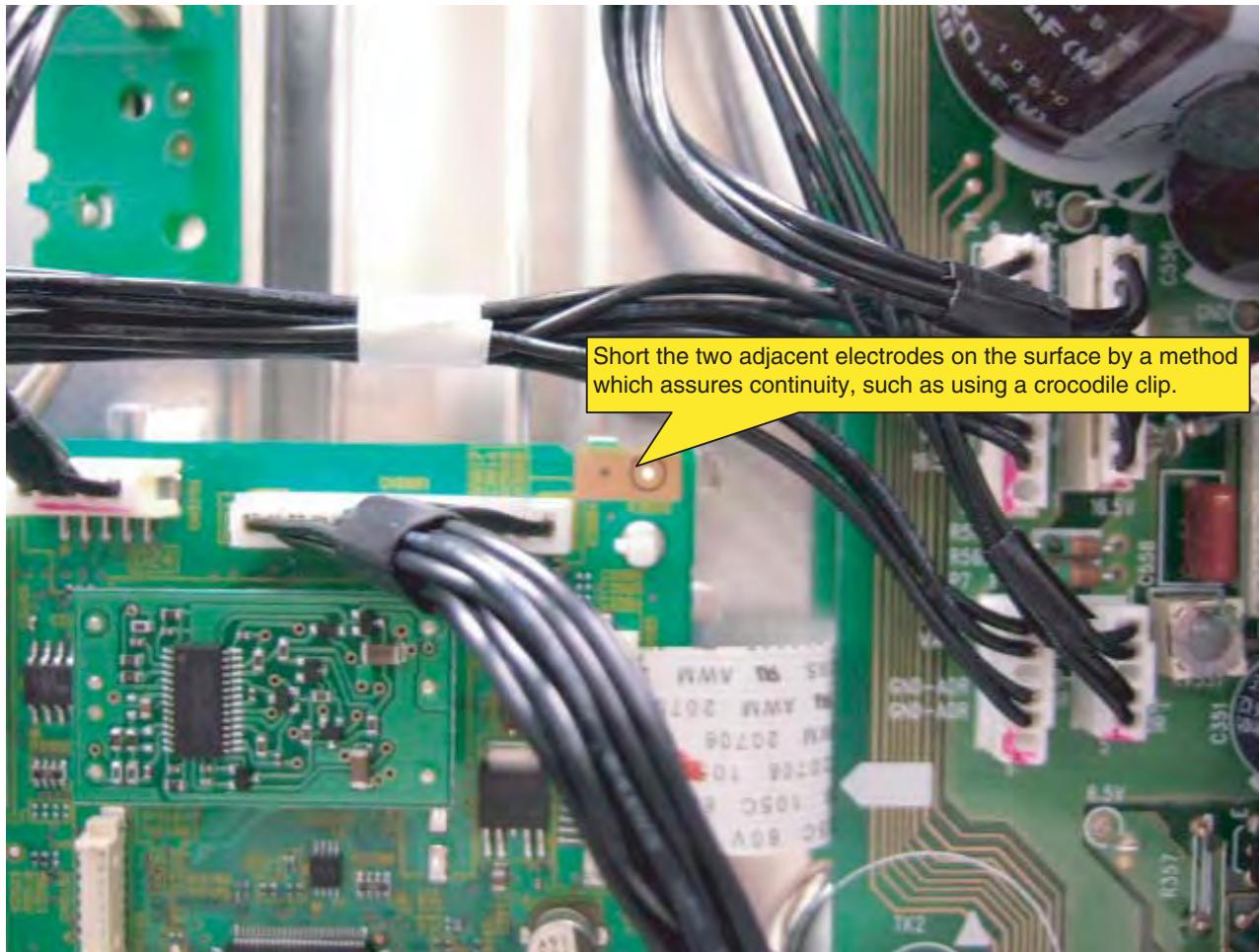
**Method:**

1. Make shorting between the specified location (refer to the illustration below) of the PCB surface of the DIGITAL ASSY and the nearby pattern.
2. Execute [DRV S00] by RS232C command. ([DRV S01] for release)

B

**Supplemental explanation:**

- When the large signal system power supply is in OFF state, there will be no PD, except PS\_PD, as the PD signal has been muted.
- If the clip is removed in the OFF state of the large signal system power supply, PD will take place at the instance of clip removal. Therefore, be sure to remove the clip after turning the power OFF.
- Under RS232C command control, [DRVS01] (release) is possible during power ON. However, there is a possibility of damaging the set. Therefore, make this operation only after turning the power OFF.
- Command [DRVS00/S01] is effective even during standby. When the main power is turned OFF, however, [DRVS01] (release) will be effective.



# 11. SPECIFICATION

## 11.1 SPECIFICATION

### Specifications

Item	50"Plasma Display,Model: PDP-5016HD	42"Plasma Display,Model: PDP-4216HD
Number of Pixels	1 365 x 768 pixels	1 024 x 768 pixels
Power Requirement	120 V AC,60 Hz,363 W (max) (1.0 W Standby)	120 V AC,60 Hz,295 W (max) (1.0 W Standby)
Dimensions (with stand)	1 260 (W)mm x 870 (H)mm x 308 (D)mm (49 5/8 (W)inches x 34 1/4 (H)inches x 12 1/8 (D)inches)	1 235 (W)mm x 699 (H)mm x 252 (D)mm (48 5/8 (W)inches x 27 1/2 (H)inches x 10 (D)inches)
Weight (with stand)	46.0 kg (101.2 lbs)	38.5 kg (84.7 lbs)
Audio Amplifier	10 W +10 W (1 kHz,1 %)	
Surround System	SRS TruSurroundXT	
Reception System (Digital)	ATSC Digital TV system	
Circuit type	8VSB &QAM demodulation	
Tuner VHF/UHF	VHF 2 –13 ch,UHF 14 –69 ch	
CATV	1-125 ch	
Audio format	Dolby Digital	
Reception System (Analog)	American TV standard NTSC system	
Tuning System	FS	
Tuner VHF/UHF	VHF 2 –13 ch,UHF 14 –69 ch	
CATV	1 –125 ch	
Audio multiplex	BTSC system	
Terminals		
Rear		
DTV-ANTENNA IN	75 Ω UNBAL,F Type for DTV/CATV in	
ANTENNA IN	75 Ω UNBAL,F Type for VHF/UHF/CATV in	
VIDEO 1	S-VIDEO in,VIDEO in,AUDIO in	
VIDEO 2	S-VIDEO in,VIDEO in,AUDIO in	
COMPONENT 1	COMPONENT VIDEO in,AUDIO in	
COMPONENT 2	COMPONENT VIDEO in,AUDIO in	
HDMI1	HDMI in,AUDIO in	
HDMI2	HDMI in	
MONITOR OUT	VIDEO out,AUDIO out	
DIGITAL OUT	OPTICAL out	
RS-232C	Service only	
Side		
VIDEO 3	S-VIDEO in,VIDEO in,AUDIO in	
OSD	English/French/Spanish	

A

B

C

D

E

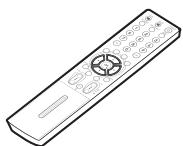
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## 11.2 ACCESSORY

A



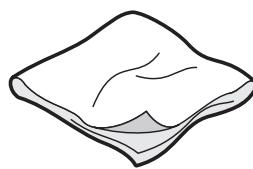
Power cord  
(D1300-0390)



Remote control unit  
(01400-0850)



AAA size battery x2  
(Alkaline battery)

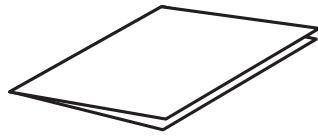


Cleaning cloth  
(AED1285)

B



Operating Instructions



Warranty card



Hook x2

C

D

E

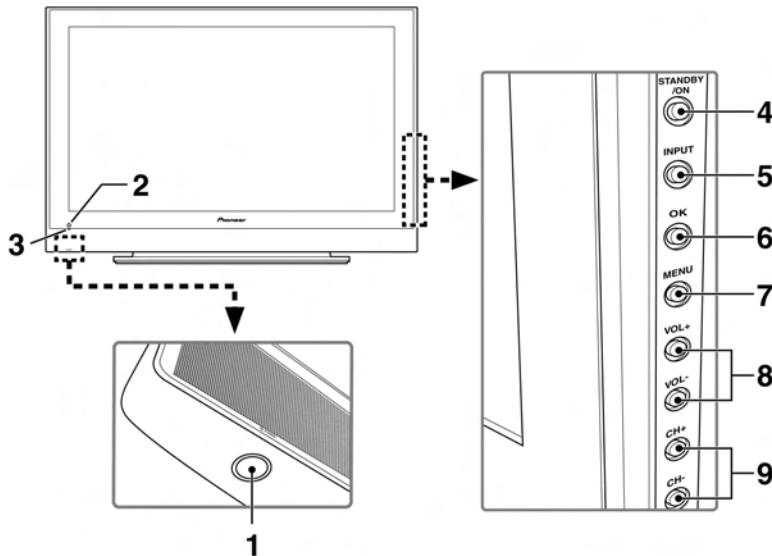
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## 11.3 PANEL FACILITIES

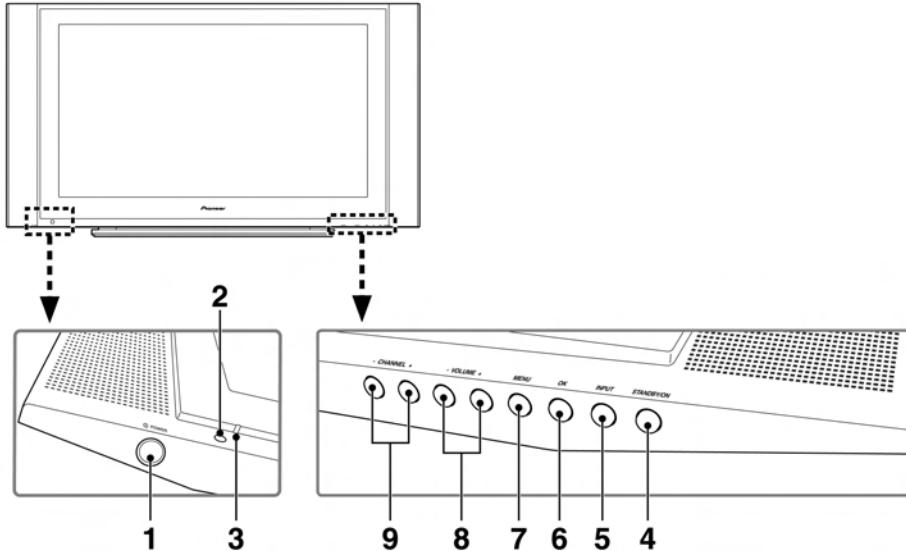
### Part Names

- Front panel

**Front view  
(PDP-5016HD)**



**Front view  
(PDP-4216HD)**



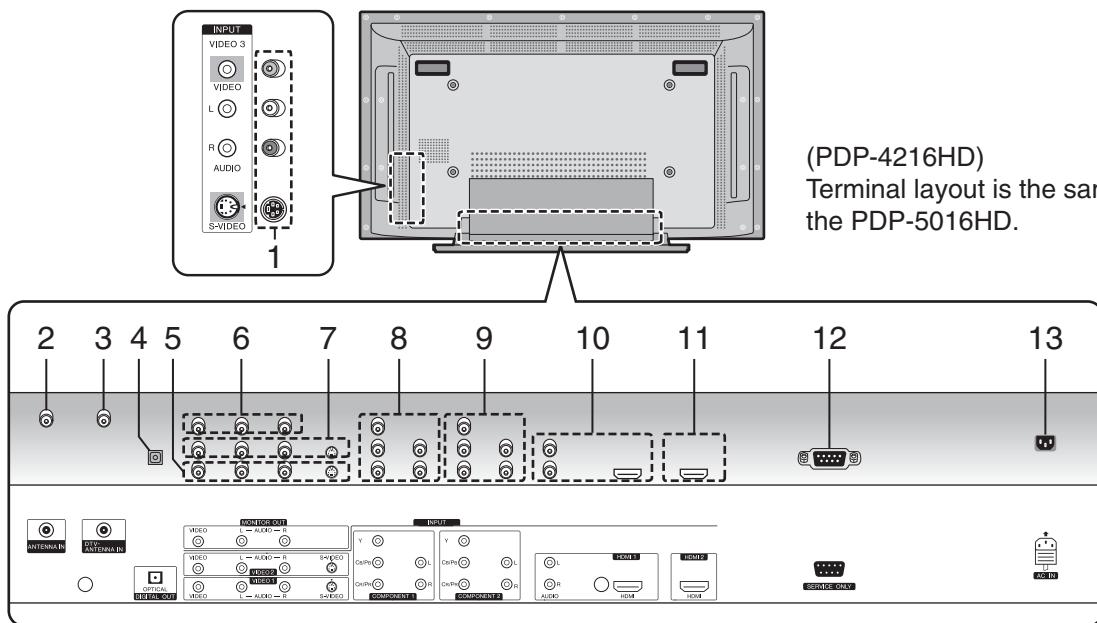
- 1 ⓠPOWER button
- 2 Remote control sensor
- 3 POWER indicator
- 4 STANDBY/ON button
- 5 INPUT button

- 6 OK button
- 7 MENU button
- 8 VOLUME -/+ buttons (LEFT/RIGHT buttons\*)
- 9 CHANNEL -/+ buttons (DOWN/UP buttons\*)

The buttons with an asterisk (\*) are used from the menu screen.

## A Part Names

- Rear view

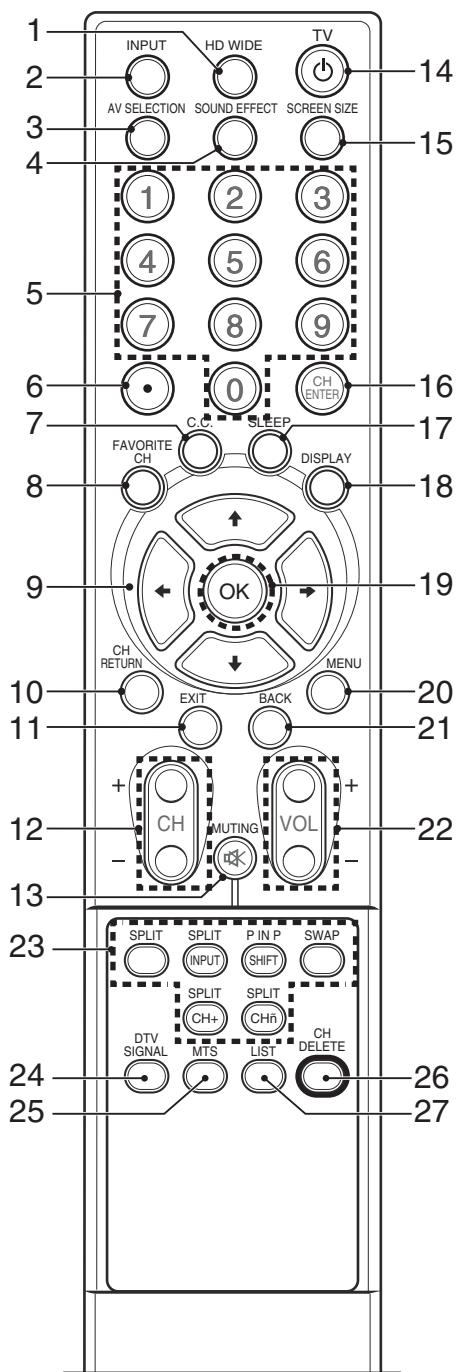


The terminals face downwards.

- 1 VIDEO 3 terminals (AUDIO/VIDEO/S-VIDEO)
- 2 ANTENNA IN terminal
- 3 DTV-ANTENNA IN terminal
- D 4 DIGITAL OUT terminal (OPTICAL)
- 5 VIDEO 1 terminals (AUDIO/VIDEO/S-VIDEO)
- 6 MONITOR OUT terminals (AUDIO/VIDEO)
- 7 VIDEO 2 terminals (AUDIO/VIDEO/S-VIDEO)
- 8 COMPONENT 1 terminals (COMPONENT VIDEO: Y, Cb/Pb, Cr/Pr, AUDIO)
- 9 COMPONENT 2 terminals (COMPONENT VIDEO: Y, Cb/Pb, Cr/Pr, AUDIO)
- 10 HDMI 1 terminals (AUDIO/HDMI)
- 11 HDMI 2 terminal
- 12 RS-232C terminal (service only)
- E 13 AC IN terminal

## Part Names

### • Remote control unit



- 1 HD WIDE: Adjust the screen size to fit the 16:9 pictures. Available for HD signals in DTV mode.  
 2 INPUT: Displays all available input sources.  
 Press the  $\uparrow$  or  $\downarrow$  button to select the required input source.  
 3 AV SELECTION: Selects the picture mode  
 (Standard, Dynamic, Movie, Game or User).  
 4 SOUND EFFECT: Selects the sound effect  
 (Flat, Speech, Movie, Music or User).  
 5 0-9: Select the channel.  
 6 - (dot): Selects the subchannel of DTV.  
 7 C.C.: Display captions while in the closed caption source.  
 8 FAVORITE CH: Selects the favorite channel.  
 CH. While watching, you can toggle the set channels by pressing the button.  
 9  $\uparrow$  /  $\downarrow$  /  $\leftarrow$  /  $\rightarrow$  : Controls the cursor on the menu screen.  
 10 CH RETURN : Returns to the previous channel.  
 11 EXIT: Exits from any display.  
 12 CH + / - : Changes the channel.  
 13  $\otimes$  MUTING: Mutes the sound.  
 14 TV : Turns on the power to the Plasma Display System or places it into standby mode.  
 15 SCREEN SIZE: Changes the screen size  
 (Zoom /Cinema /Full/4:3 /Wide).  
 16 CH ENTER: Executes a channel number.  
 17 SLEEP: Sets the sleep timer.  
 18 DISPLAY: Displays the channel information.  
 19 OK: Executes a command.  
 20 MENU: Displays the menu screen.  
 21 BACK: Returns to the previous menu screen.  
 22 VOL +/-: Sets the volume.  
 23 SPLIT Function Buttons  
 SPLIT: Switches the screen mode (Off, PIP, TWIN1 or TWIN2).  
 SPLIT INPUT: Selects an input source for the sub picture.  
 P IN P SHIFT: Moves the location of the sub picture when in the PIP mode.  
 SWAP: Switches between the two screens when in the TWIN or PIP mode.  
 SPLIT CH +, SPLIT CH -: Changes the channel of the sub picture.  
 24 DTV SIGNAL: Displays the signal strength in DTV.  
 25 MTS: Selects MTS/SAP or language depending on the program being watched.  
 26 CH DELETE: Deletes a channel in Edit Channel List.  
 27 LIST: Displays the channel list. Press the  $\uparrow$  or  $\downarrow$  button to select the required channel.

## **12. IC INFORMATION**

- The information shown in the list is basic information and may not correspond exactly to that shown in the schematic diagrams.

- List of IC

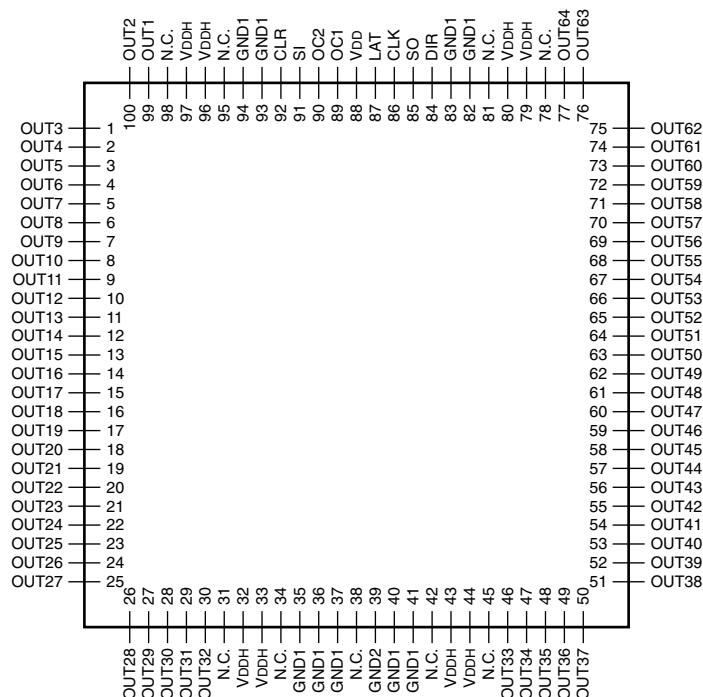
SN755870KPZT, PEE002B-K, ZR39660BGLF, FLI8668-LF BC, MSP4450K, CAS-220/C, CXA2069Q, SII9023  
M28W160CT-70N6E, M29W320ET-70N6E, HY5DU281622ETP, 74HCT244, LTC3412EFE, OLX232, K4H561638H-UCB3  
LD29150PT/P-PAK, STA323W13TR, M41T81, LM35CZ, BA05CCOFP, KIA7809AF, 24LC256, 24LC16B, 24LC64T-I/SN  
74LVC157AD

■ SN755870KPZT (42 SCAN A ASSY : IC2801 - IC2806), (50 SCAN A ASSY : IC2801 - IC2806)  
(42 SCAN B ASSY : IC2901 - IC2906), (50 SCAN B ASSY : IC2901 - IC2906)

- PLASMA DISPLAY PANEL IC

## ● PIN LAYOUT (Top View)

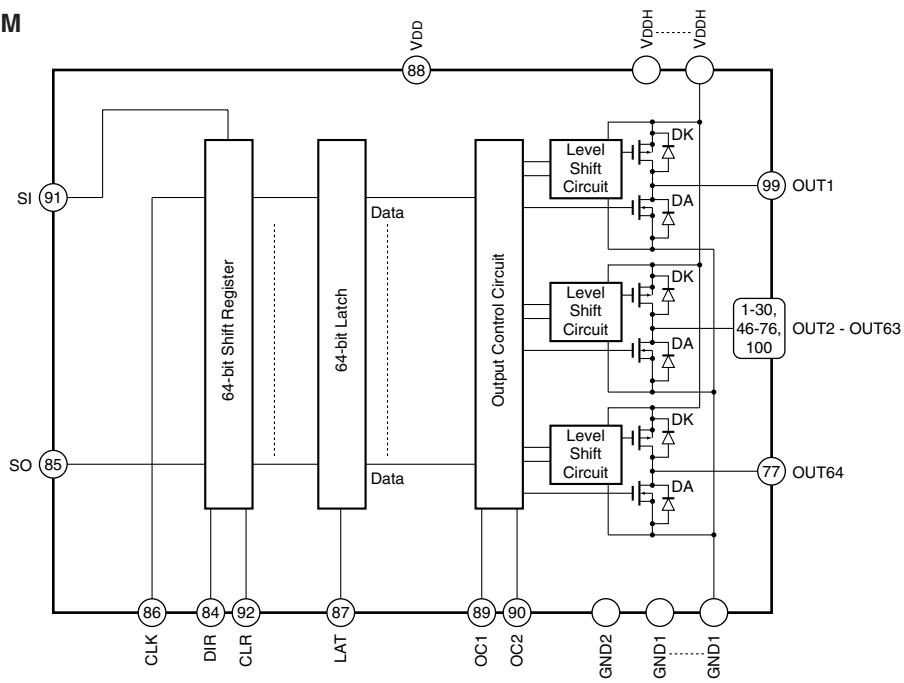
B



C

D

## ● BLOCK DIAGRAM



F

### ● PIN FUNCTION

No.	Pin Name	I/O	Pin Function
1 - 30	OUT3 - OUT32	O	High-voltage push-pull output
31	N.C.	-	Not used
32 - 33	VDDH	-	Power for High-voltage circuit
34	N.C.	-	Not used
35 - 37	GND1	-	GND
38	N.C.	-	Not used
39	GND2	-	GND
40 - 41	GND1	-	GND
42	N.C.	-	Not used
43 - 44	VDDH	-	Power for High-voltage circuit
45	N.C.	-	Not used
46 - 77	OUT33 - OUT64	O	High-voltage push-pull output
78	N.C.	-	Not used
79 - 80	VDDH	-	Power for High-voltage circuit
81	N.C.	-	Not used
82 - 83	GND1	-	GND
84	DIR	I	Setting the shift direction of shift-register L : reverse side shift (SO→SI), H : forward side shift (SI→SO)
85	SO	I/O	Serial data In/Out
86	CLK	I	Serial clock Input Down-side edge trigger
87	LAT	I	LAT data Input L : The data of shifregister is transferred to ouput latch. H : The ouput data of latch is holded.
88	VDD	-	Power for Logic circuit
89	OC1	I	Output control Output is controlled by truth table right side.
90	OC2	I	
91	SI	I/O	Serial data In/Out
92	CLR	I	All output reset CLR terminal : L → normal operation, CLR terminal : H→ All output "H"
93 - 94	GND1	-	GND
95	N.C.	-	Not used
96 - 97	VDDH	-	Power for High-voltage circuit
98	N.C.	-	Not used
99 - 100	OUT1 - OUT2	O	High-voltage push-pull output

OC1	OC2	OUT
L	L	ALL Hi-Z
L	H	DATA
H	L	ALL L
H	H	ALL H

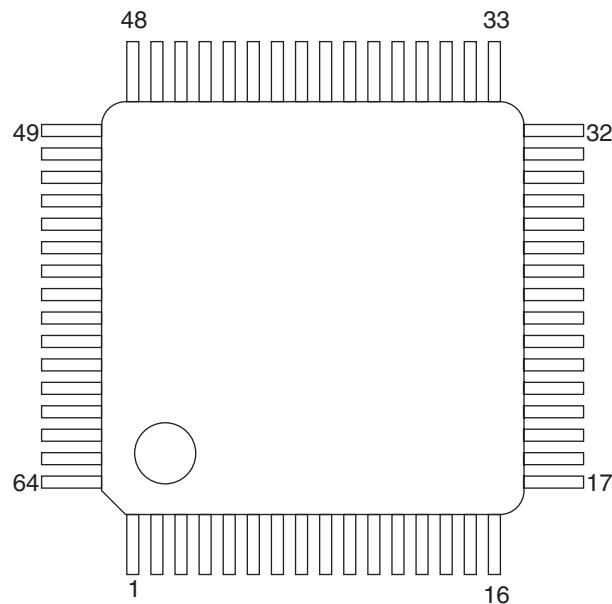
## ■ PEE002B-K (42 ADDRESS ASSY:IC1501)

- LVDS Receiver

### ● PIN FUNCTION

PIN no.	I/O TYPE	SIGNAL
1	LRGND	
2	bb_silcdhsip_7c19a	RAMP1
3	bb_silcdhsip_7c19a	RAPP1
4	bb_silcdhsip_7c19a	RBMP1
5	bb_silcdhsip_7c19a	RBPP1
6	LRVDD	
7	bb_silcdhsip_7c19a	RCMP1
8	bb_silcdhsip_7c19a	RCPP1
9	bb_silcdhsip_7c19a	RCLKMP1
10	bb_silcdhsip_7c19a	RCLKPP1
11	bb_silcdhsip_7c19a	RDMP1
12	bb_silcdhsip_7c19a	RDPP1
13	LRGND	
14	LPGND	
15	LPVDD	
16	SIBTD	TEST0
17	SIBTD	TEST1
18	SIBTD	PHSSEL1
19	SIBTD	PHSSEL0
20	SIBTD	DIV0
21	SIBTD	DIV1
22	GND	
23	VDD	
24	VDD	
25	SOT4L	R_E
26	SOT4L	G_E
27	SOT4L	B_E
28	GND	
29	SOT4L	ADRSV3
30	SOT4L	R_D
31	SOT4L	G_D
32	SOT4L	B_D
33	VDD	
34	SOT8FL	LE
35	GND	
36	SOT12FL	CLKOUT
37	VDD	
38	SOT4L	ADR_B
39	SOT4L	ADR_D
40	SOT4L	ADR_U

PIN no.	I/O TYPE	SIGNAL
41	SOT4L	ADR_G
42	SOT4L	LBLK
43	SOT4L	HBLK
44	GND	
45	SOT4L	HZ
46	SOT4L	R_C
47	SOT4L	G_C
48	SOT4L	B_C
49	VDD	
50	SOT4L	ADRSV2
51	SOT4L	R_B
52	GND	
53	SOT4L	G_B
54	SOT4L	B_B
55	GND	
56	VDD	
57	SOT4L	ADRSV1
58	VDD	
59	SOT4L	R_A
60	SOT4L	G_A
61	GND	
62	SOT4L	B_A
63	SOT4L	ADRSV0
64	SISTD	OE



## ● Pin Function

PIN NO	Pin name	Signal name	Function	I/O	Active	Initial setting at power ON
1	NC					
2	P3_5/SCL/SSCK	SCL(I2C)	I2C clock	I		
3	P3_3/SSI					
4	P3_4/SDA/SCS	SDA(I2C)	I2C data	I/O		
5	MODE					
6	P4_3/XCIN					
7	P4_4/XCOUT					
8	RESET	RESET				
9	P4_7/XOUT	XOUT	Output for the main clock	O		
10	VSS/AVSS	VSS				
11	P4_6/XIN	XIN	Input for the main clock	I		
12	VCC/AVCC	VCC				
13	P2_7/TRDIOD1	ID7	I2C device ID setting 7	I		
14	P2_6/TRDIOD1	ID6	I2C device ID setting 6	I		
15	P2_5/TRDIOD1	ID5	I2C device ID setting 5	I		
16	P2_4/TRDIOA1	ID4	I2C device ID setting 4	I		
17	P2_3/TRDIOD0	ID3	I2C device ID setting 3	I		
18	P2_2/TRDIOD0	ID2	I2C device ID setting 2	I		
19	P2_1/TRDIOD0	ID1	I2C device ID setting 1	I		
20	P2_0/TRDIOA0					
21	P1_7/TRAIO/INT1					
22	P1_6/CLK0	Md_REQ_IN	Input of REQ signal from Md	I		
23	P1_5/RXD0	RXD0	Receiving of UART communication data with Md microcomputer	I		
24	P1_4/TXD0	TXD0	Transmission of UART communication data with Md microcomputer	O		
25	P1_3/KI3/AN11	STATUS	Md error output	O	L	
26	NC					
27	P4_5/INT0	REQ_OUT	REQ signal outout	O	H	
28	P6_6/INT2/TXD1	TXD1	Transmission of UART communication data with the PC	O		
29	P6_7/INT3/RXD1	RXD1	Receiving of UART communication data with the PC	I		
30	P1_2/KI2/AN10	POWER	Power ON/OFF switching	I		
31	P1_1/KI1/AN9	MAX_PLS11	4L/2L switching 1	I		
32	P1_0/KI0/AN8	MAX_PLS10	4L/2L switching 0	I		
33	P3_1/TRBO	MASK1	Mask pattern switching 1	I		
34	P3_0/TRA0	MASK0	Mask pattern switching 0	I		
35	P6_5/CLK1	DITHER	Dither switching	I		
36	P6_4					
37	P6_3					
38	P0_7/AN0	AC_OFF	AC input detection	+ H		
39	NC					
40	NC					
41	P0_6/AN1	MAX_PLS21	Peak brightness switching 1	I		
42	P0_5/AN2	MAX_PLS20	Peak brightness switching 0	I		
43	P0_4/AN3	RS_SEL2	Data conversion switching 2	I		
44	P4_2/VREF	VCC		I		
45	P6_0/TREO					
46	P6_2					
47	P6_1	ZAC	Aging mode switching	I		
48	P0_3/AN4	RS_SEL1	Data conversion switching 1	I		
49	P0_2/AN5	RS_SEL0	Data conversion switching 0	I		
50	P0_1/AN6	MSEL	GPIO/I2C conversion switching	I		
51	P0_0/AN7	CHSEL	Operational mode setting	I		
52	P3_7/SSO					

I  
(fixed to input)

A

B

C

D

E

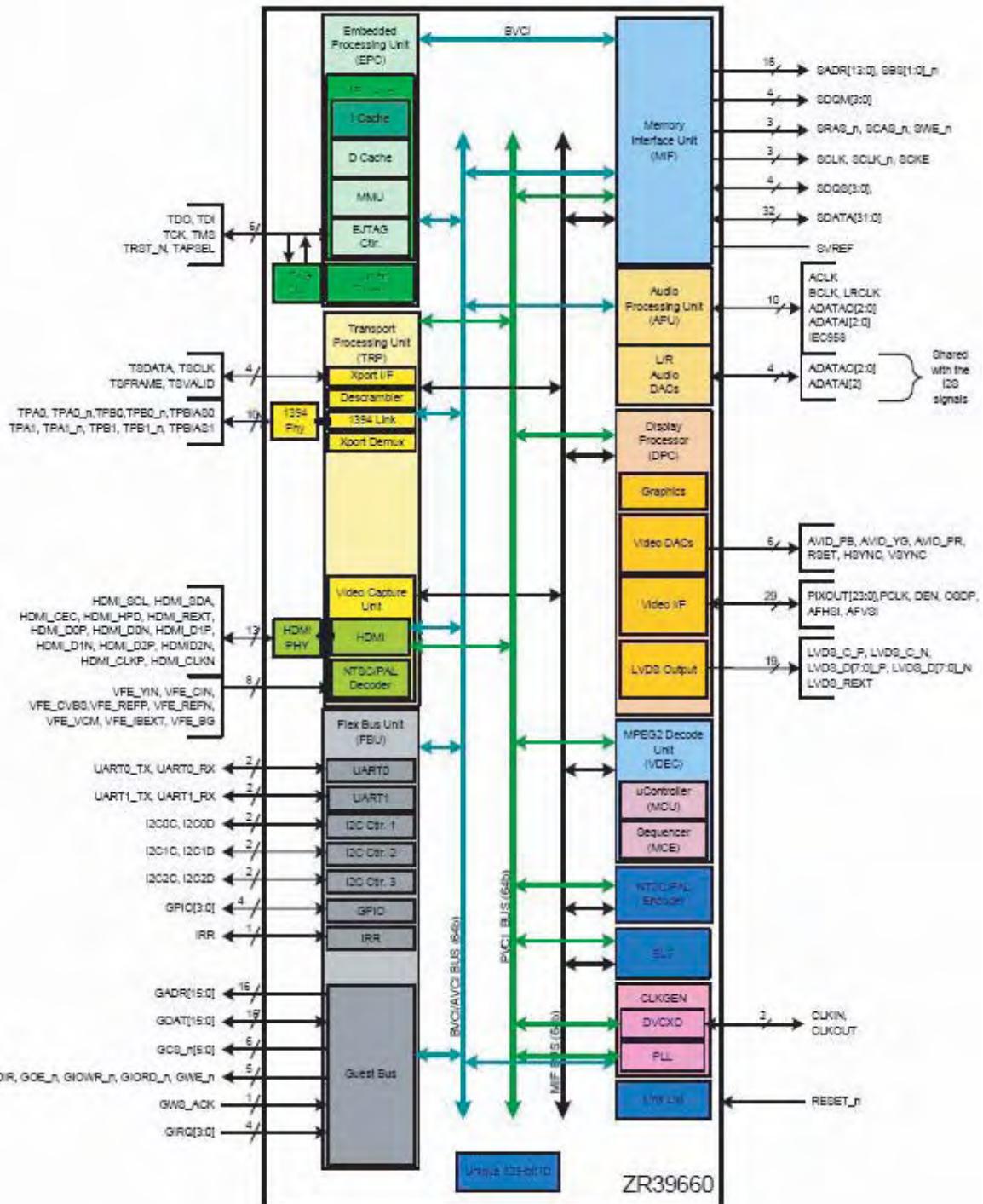
F

■ ZR39660 (MAIN ASSY: U29A- U29I)

A

## ● Block Diagram

B



C

D

F

F

## ■ FLI8668-LF BC (MAIN ASSY: U5A- U5E)

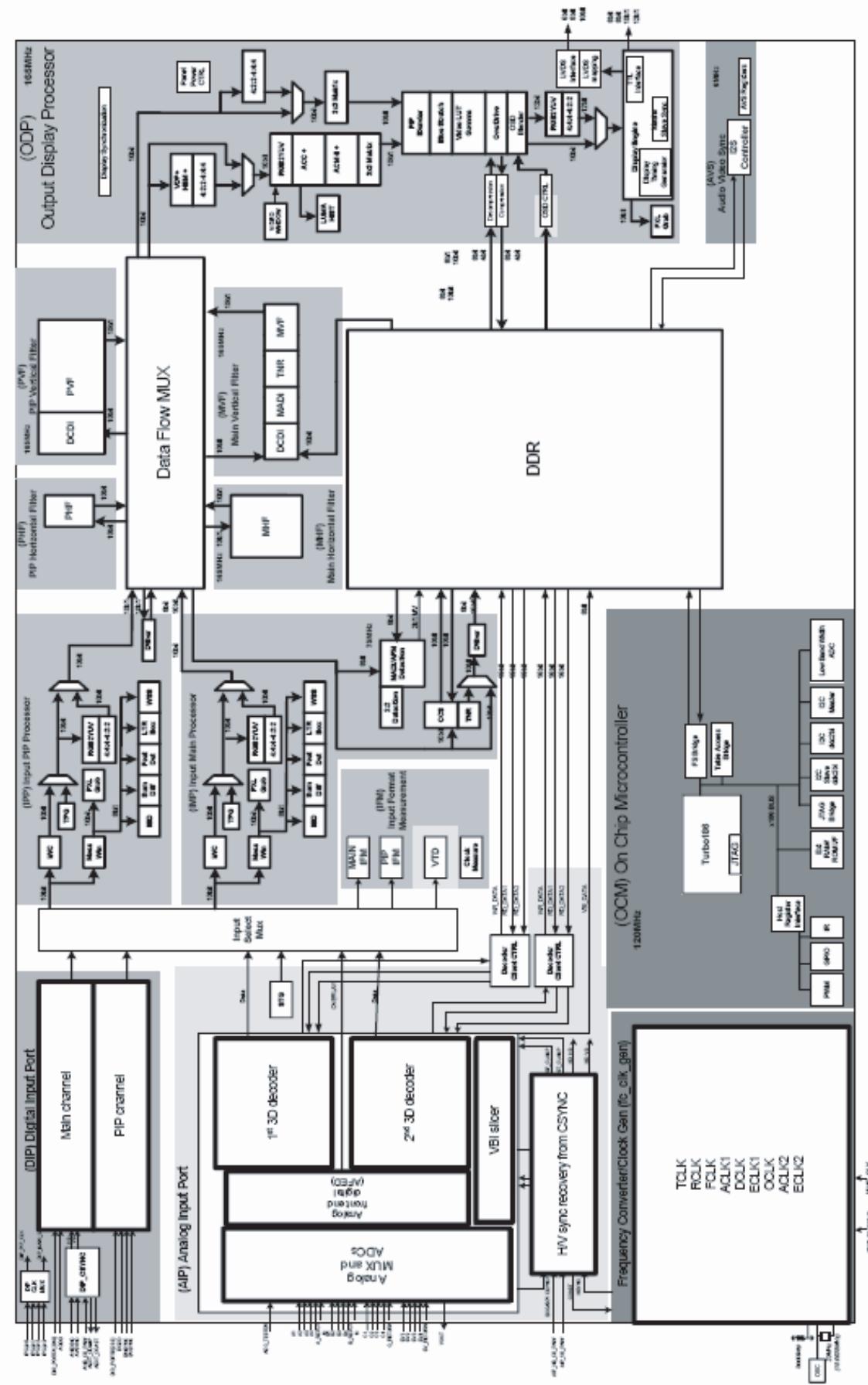
### ● Pin Arrangement

	1	2	3	4	5	6	7	8	9	10	11	12	13	1
A	N/C	MSTR1_SDA	MSTR1_SCL	FSDATA1	FSDATA3	FSDQMO	FSDATA5	FSDATA7	FSDATA9	FSDATA11	FSDQM1	FSDATA13	FSDATA15	V_L
B	BDATA0	OCM_UDO_1	OCM_UDI_1	FSDATA0	FSDATA2	FSDQSO	FSDATA4	FSDATA6	FSDATA8	FSDATA10	FSDQS1	FSDATA12	FSDATA14	V_L
C	BDATA3	BDATA2	BDATA1	FSCKE	FSCLKN	FSADDR8	FSADDR7	FSADDR6	FSVREF	FSADDR5	FSADDR12	FSADDR9	FSADDR4	F
D	BDATA6	BDATA5	BDATA4	DDR_2.5	FSCLKP	DDR_2.5	DDR_2.5	DDR_2.5	FSVREFVSS	DDR_2.5	DDR_2.5	DDR_2.5	DDR_2.5	D
E	BDATA9	BDATA8	BDATA7	IO_3.3										
F	BDATA12	BDATA11	BDATA10	IO_3.3										
G	BDATA15	BDATA14	BDATA13	IO_3.3										
H	BDATA18	BDATA17	BDATA16	IO_3.3										
J	BDATA21	BDATA20	BDATA19	IO_3.3										
K	BHREF_DE	BDATA23	BDATA22	IO_3.3						CORE_1.8	CORE_1.8	D_GND	D_GND	D
L	IPCLK3	BVS	BHS	IO_3.3						D_GND	CORE_1.8	D_GND	D_GND	D
M	DIP_CLEAN_CLAMP	DIP_EXT_COAST	DIP_EXT_HS_OUT	IPCLK2						D_GND	D_GND	D_GND	D_GND	D
N	IPCLK0	DIP_RAW_HS_CS	DIP_AODD	DIP_BODD						D_GND	D_GND	D_GND	D_GND	D
P	ADATA2	ADATA1	ADATA0	IPCLK1						D_GND	D_GND	D_GND	D_GND	D
R	ADATA5	ADATA5	ADATA4	ADATA3						D_GND	D_GND	D_GND	D_GND	D
T	ADATA10	ADATA9	ADATA8	ADATA7						D_GND	CORE_1.8	D_GND	D_GND	D
U	ADATA14	ADATA13	ADATA12	ADATA11						CORE_1.8	CORE_1.8	D_GND	D_GND	D
V	ADATA18	ADATA17	ADATA16	ADATA15										
W	ADATA22	ADATA21	ADATA20	ADATA19										
Y	AVS	AHS	AHREF_DE	ADATA23										
AA	NIC	DGND_ADC	DGND_ADC	DGND_ADC										
AB	A1P	SV1P	AGND_ADC	ADC_1.8										
AC	C1P	B1P	AGND_ADC	ADC_1.8	ADC_1.8	AGND_ADC	VOUT2	AGND_ADC	LBADC_33	LBADC_IN4	LBADC_GND	AVS_IN_DATA	EXT OSD HS	E
AD	AN	AGND_ADC	ADC1_3.3	ADC1_3.3	ADC1_3.3	ADC2_3.3	ADC2_3.3	AGND_ADC	RESETn	LBADC_IN3	LBADC_RETURN	AVS_IN_WORD_SEL	EXT OSD VS	A D
AE	SV2P	B2P	AGND_ADC	SV3P	B3P	AGND_ADC	SV4P	BN2	AGND_ADC	LBADC_IN2	LBADC_IN6	AIP_RAW_VS	AVS_OUT_SCL	A W
AF	A2P	C2P	BN	A3P	C3P	CN	AN2	CN2	SVN	LBADC_IN1	LBADC_IN5	AIP_RAW_HS_CS	EXT OSD CLK	A S

## ● Pin Arrangement

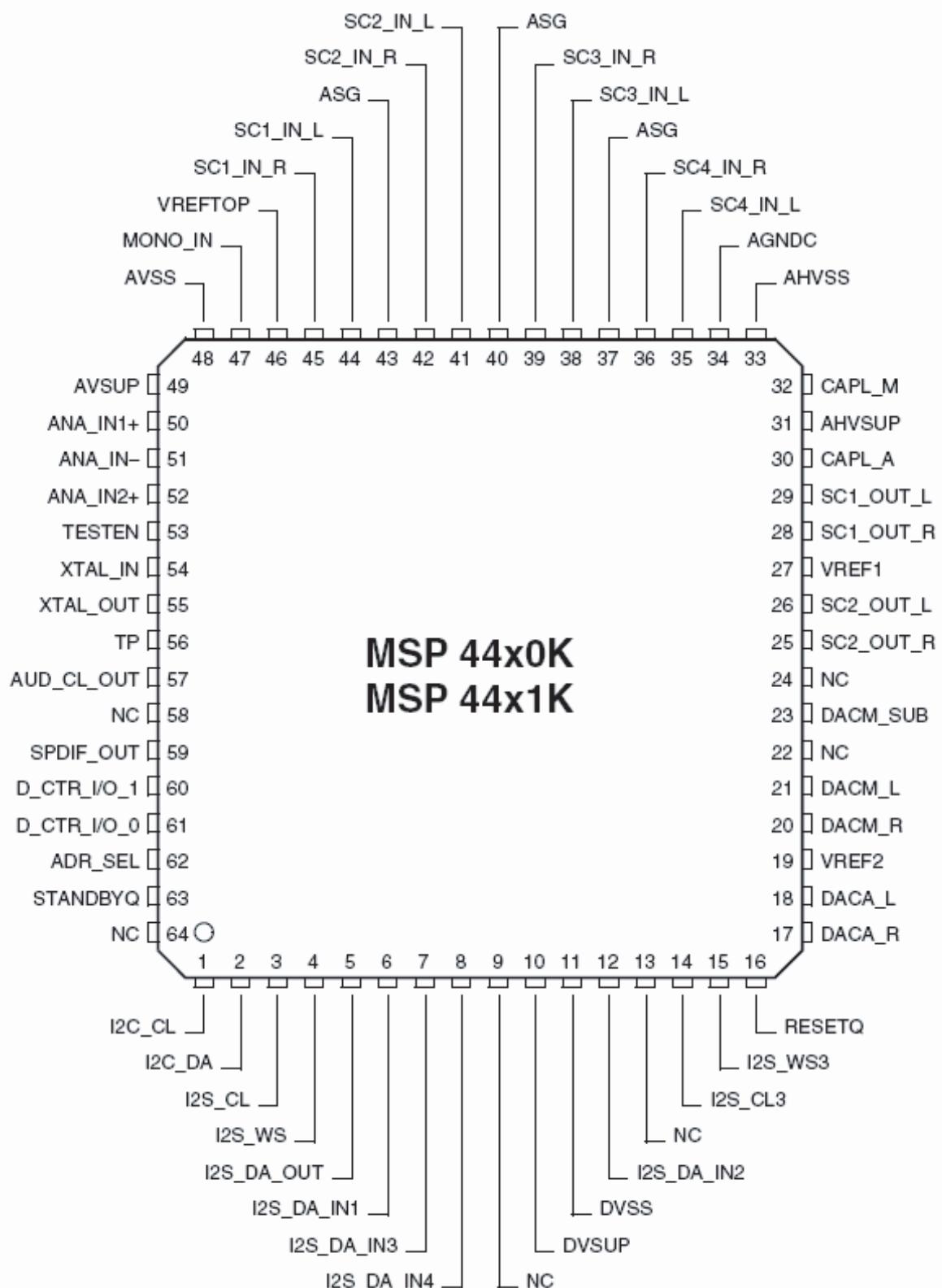
A	14	15	16	17	18	19	20	21	22	23	24	25	26	
	VDDA18_DL_L	FSDATA17	FSDATA19	FSDQS2	FSDATA21	FSDATA23	FSDATA25	FSDATA27	FSDQS3	FSDATA29	FSDATA31	RPLL_A_GND	RPLL_A_GND	A
	VSSA18_DL_L	FSDATA16	FSDATA18	FSDQM2	FSDATA20	FSDATA22	FSDATA24	FSDATA26	FSDQM3	FSDATA28	FSDATA30	RPLL_D_GND	Xtal	B
	FSADDR11	FSADDR3	FSADDR2	FSADDR1	FSADDR0	FSVREF	FSBKSEL0	FSCS1	FSWE	FSRAS	RPLL_18	TCLK		C
D	DDR_25	DDR_25	FSADDR10	DDR_25	DDR_25	FSVREFVSS	DDR_25	FSCS0	DDR_25	DDR_25	FSCAS	N/C	RPLL_33	D
E										CH0P_LV_O /PD22 (ERED6)	CH0N_LV_O /PD23 (ERED7)	LVDS_3.3 GND		E
F										CH2P_LV_O /PD18 (ERED2)	CH2N_LV_O /PD19 (ERED3)	CH1P_LV_O /PD20 (ERED4)	CH1N_LV_O /PD21 (ERED5)	F
G										CH3P_LV_O /PD14 (EGRN6)	CH3N_LV_O /PD15 (EGRN7)	CLKP_LV_O /PD16 (EGRD0)	CLKN_LV_O /PD17 (EGRD1)	G
H										LVDS_PLL_GND	LVDS_PLL_3.3	LVDS_3.3 GND	LVDS_3.3	H
J										CH4P_LV_O /PD12 (EGRN4)	CH4N_LV_O /PD13 (EGRN5)	LVDS_3.3 GND	LVDS_3.3	J
K	D_GND	D_GND	CORE_1.8	CORE_1.8						CH1P_LV_E /PD8 (EGRN0)	CH1N_LV_E /PD9 (EGRN1)	CH0P_LV_E /PD10 (EGRN2)	CH0N_LV_E /PD11 (EGRN3)	K
L	D_GND	D_GND	CORE_1.8	D_GND						CLKP_LV_E /PD4 (EBLU4)	CLKN_LV_E /PD5 (EBLU5)	CH2P_LV_E /PD6 (EBLU6)	CH2N_LV_E /PD7 (EBLU7)	L
M	D_GND	D_GND	D_GND	D_GND						I/O_3.3	LVDS_3.3 GND	LVDS_3.3 GND	LVDS_3.3	M
N	D_GND	D_GND	D_GND	D_GND						CH4P_LV_E /PD0(EBLU0)	CH4N_LV_E /PD1(EBLU1)	CH3P_LV_E /PD2(EBLU2)	CH3N_LV_E /PD3(EBLU3)	N
P	D_GND	D_GND	D_GND	D_GND						I/O_3.3	DCLK	DHS	DEN	P
R	D_GND	D_GND	D_GND	D_GND						GPIO_45 /JTAG_BS_T DI	GPIO_46 /JTAG_BS_R ST	GPIO_47 /JTAG_BS_T CK	DVS	R
T	D_GND	D_GND	CORE_1.8	CORE_1.8						I/O_3.3	GPIO_42 /JTAG_BS_T MS	GPIO_43 /JTAG_BS_T DO	GPIO_44	T
U	D_GND	D_GND	CORE_1.8	CORE_1.8						PWM1	PWM2	PPWR	PBIAS	U
V										I/O_3.3	PWM0	SLAVE_SDA	SLAVE_SCL	V
W										OCM_INT1	OCM_TIMER1	OCM_UDI_0	OCM_UDO_0	W
Y										I/O_3.3	OCM_INT2	VGA1_SDA	VGA1_SCL	Y
AA										MSTR0_SDA	MSTR0_SCL	VGA0_SDA	VGA0_SCL	AA
AB										I/O_3.3	IRO	MSTR2_SDA	MSTR2_SCL	AB
AC	I/O_3.3	OCMADDR16	I/O_3.3	OCMADDR11	I/O_3.3	OCMADDR4	I/O_3.3	OCMDATA13	I/O_3.3	OCMDATA6	OCM_CS2n	OCM_REn	OCM_WEn	AC
AD	AVS_OUT_DATA9	OCMADDR15	OCMADDR15	OCMADDR12	OCMADDR11	OCMADDR8	OCMADDR5	OCMADDR10	OCMDATA14	OCMDATA10	ROM_CSn	OCM_CS0n	OCM_CS1n	AD
AE	AVS_OUT_WORD_SEL6	OCMADDR26	OCMADDR16	OCMADDR13	OCMADDR9	OCMADDR6	OCMADDR2	OCMDATA15	OCMDATA11	OCMDATA8	OCMDATA2	OCMDATA1	OCMDATA0	AE
AF	CAVS_IN_SCL1	OCMADDR27	OCMADDR17	OCMADDR14	OCMADDR10	OCMADDR7	OCMADDR3	OCMADDR0	OCMDATA12	OCMDATA9	OCMDATA5	OCMDATA4	OCMDATA3	AF

## ● Block Diagram



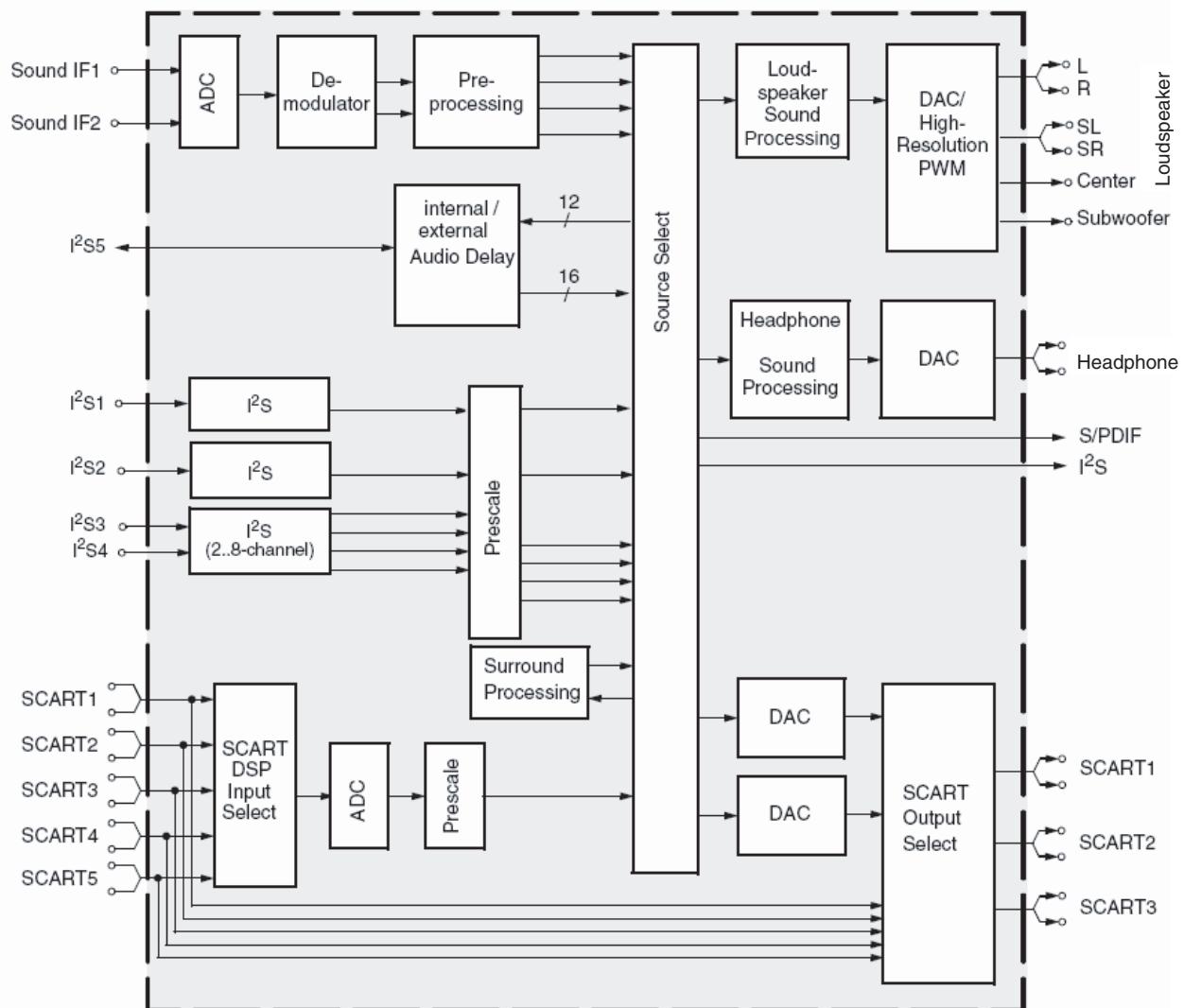
## ■ MSP4450K (MAIN ASSY: U28)

### ● Pin Arrangement



## ● Block Diagram

A



B

C

D

E

F

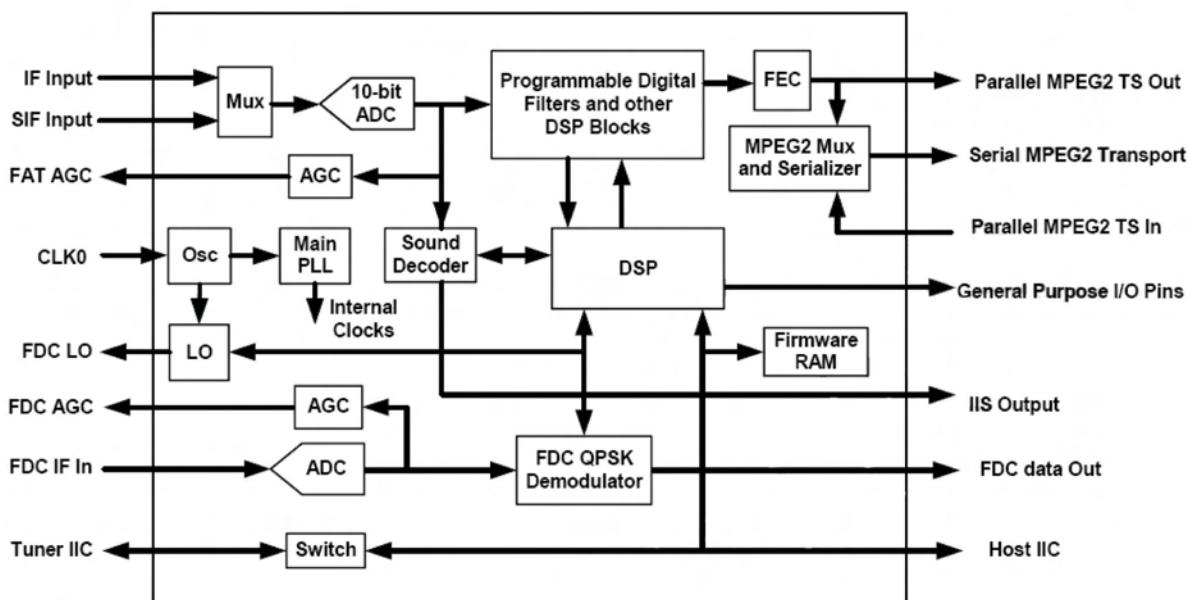
## ■ CAS-220/C (MAIN ASSY: U33A)

A

### ● Pin Arrangement

	PRM_0	100	VDD_COR_ADC1
	SCAN_EN	99	AVSS_COR_ADC
B	TEST_MODE	98	AIN1_P
	DIN_0	97	AIN1_N
	VDD_COR_ADC	96	AVSS_COR_ADC
	VSS_COR_ADC	95	AIN2_P
	VSS_COR	94	AIN2_N
C	SCAN_MODE	93	AVSS_COR_ADC
	VDD_COR	92	AVSS_COR_ADC
	DIN_1	91	AVDD_COR_N
	IF_AGC	90	AIN_OOB_N
	RF_AGC	89	AIN_OOB_P
	IIC_ADDR	88	AVSS_COR_ADC
	DIN_2	87	AVDD_COR_ADC2
	DIN_3	86	VDD_COR_PLL
	VDD_COR	85	VSS_COR_PLL
	VSS_COR	84	AVDD_PER_PLL
	TUNER_SDA	83	AVSS_PER_PLL
	VDD_PER	82	VDD_PER_OSC
	TUNER_SCL	81	VSS_PER_OSC
	HOST_SCL	80	CLK0
	HOST_SDA	79	XTO
	DIN_4	78	VDD_COR_OSC
	STAT0/SCLK	77	VSS_COR_OSC
	DIN_5	76	VSS_COR_LO
	STAT1	75	VDD_COR_LO
	DIN_6	74	VDD_PER_LO
	MPG_CLK	73	VSS_PER_LO
	MPG_VALID	72	LO_OUTN
	VDD_PER	71	LO_OUTP
	DIN_7	70	VSS_COR
	MPG_FAIL	69	VDD_COR
	VSS_PER	68	DRX_A9
	MPG_D00	67	CRX_A8_DSTR
	VDD_COR	66	AU_SCK_DSTR
	VSS_COR	65	AU_SD
	MPG_D01	64	AU_TEST
	VDD_COR	63	AU_WS
	MPG_D02	62	VDD_PER
	VDD_COR	61	RESET_N
	MPG_D03	60	VSS_PER
	DIN_8	59	OOB_AGC
	MPG_D04	58	PRM_2
	MPG_D05	57	SDAT/STAT7
	VSS_PER	56	SCLK/STAT6
	VDD_COR	55	VSS_COR
	MPG_D06	54	STAT5
	MPG_D07	53	VDD_COR
	STAT2	52	STAT4
		51	STAT3

### ● Block Diagram



F

## ■ CXA2069Q (MAIN ASSY: U25)

### ● Pin Arrangement

#### Description

The CXA2069Q is a 7-input, 3-output audio/video switch featuring I<sup>2</sup>C bus compatibility for TVs. This IC has input pins that are compatible with S2 protocol.

#### Features

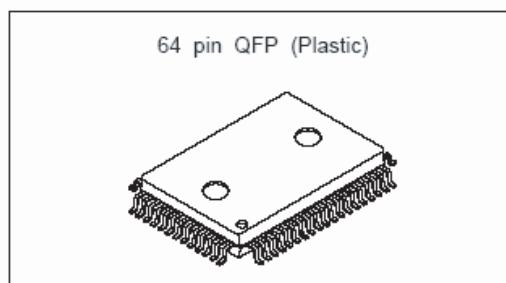
- 4 inputs that are compatible with S2 protocol
- Serial control with I<sup>2</sup>C bus
- 7 inputs, 3 outputs
- The desired inputs can be selected independently for each of the 3 outputs
- Wide band video amplifier (20 MHz, -3 dB)
- Y/C MIX circuit
- Slave address can be changed (90H/92H)
- Audio muting from external pin
- High impedance maintained by I<sup>2</sup>C bus lines (SDA, SCL) even when power is OFF
- Wide audio dynamic range (3 Vrms typ.)

#### Applications

Audio/video switch featuring I<sup>2</sup>C bus compatibility for TVs

#### Structure

Bipolar silicon monolithic IC



#### Absolute Maximum Ratings (Ta=25 °C)

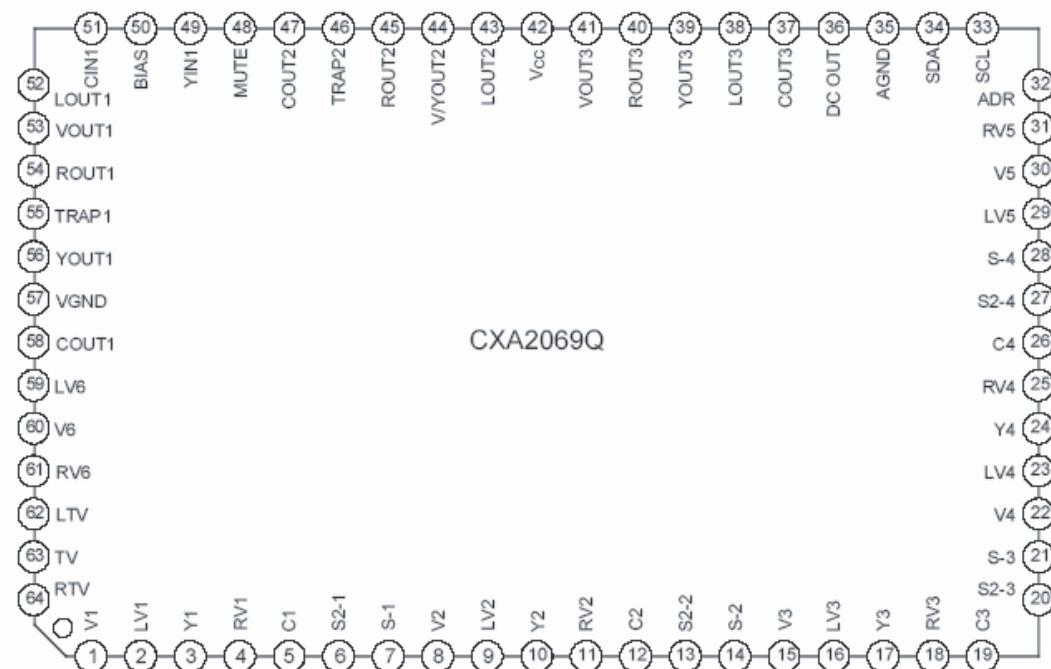
• Supply voltage	V <sub>cc</sub>	12	V
• Operating temperature			
	Topr	-20 to +75	°C
• Storage temperature	T <sub>stg</sub>	-65 to +150	°C

#### Allowable power dissipation

P <sub>o</sub>	1300	mW
----------------	------	----

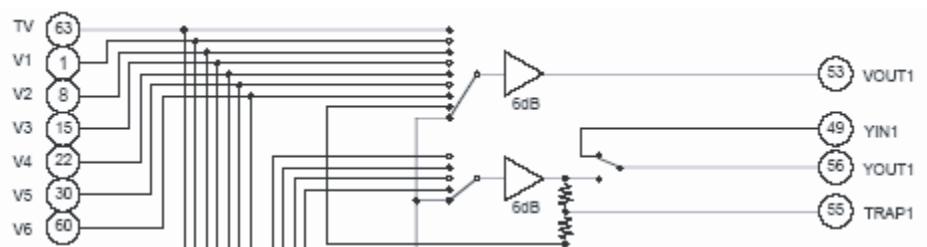
#### Operating Conditions

Supply voltage	9±0.5	V
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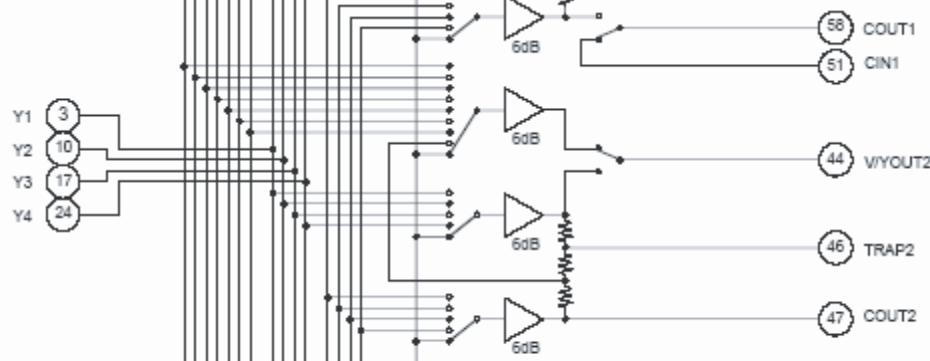


## ● Block Diagram

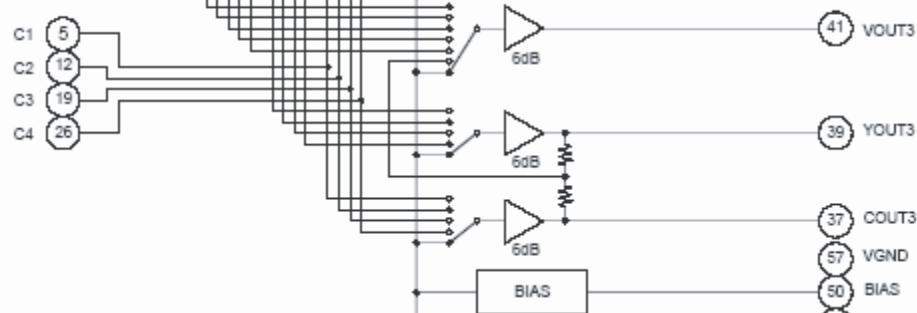
A



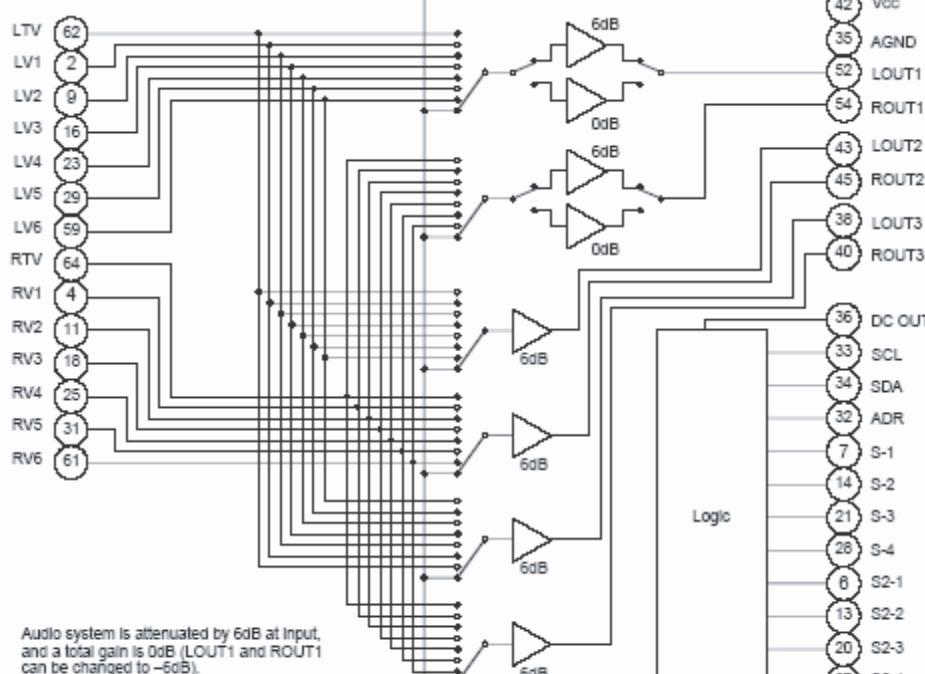
B



C



D

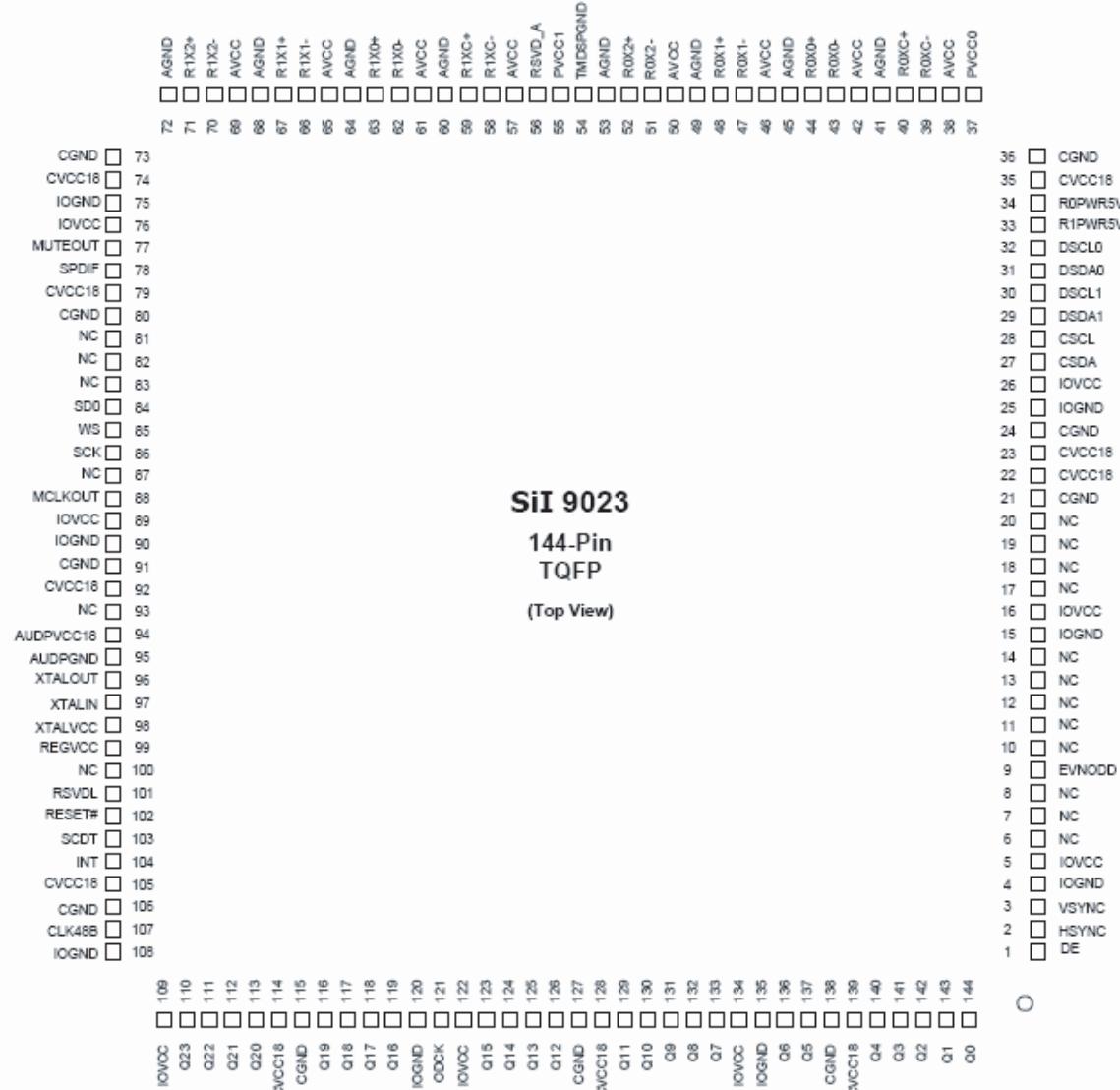


Audio system is attenuated by 6dB at Input, and a total gain is 0dB (LOUT1 and ROUT1 can be changed to -6dB).

E

## ■ SII9023 (MAIN ASSY: U45)

### ● Pin Arrangement



A

B

C

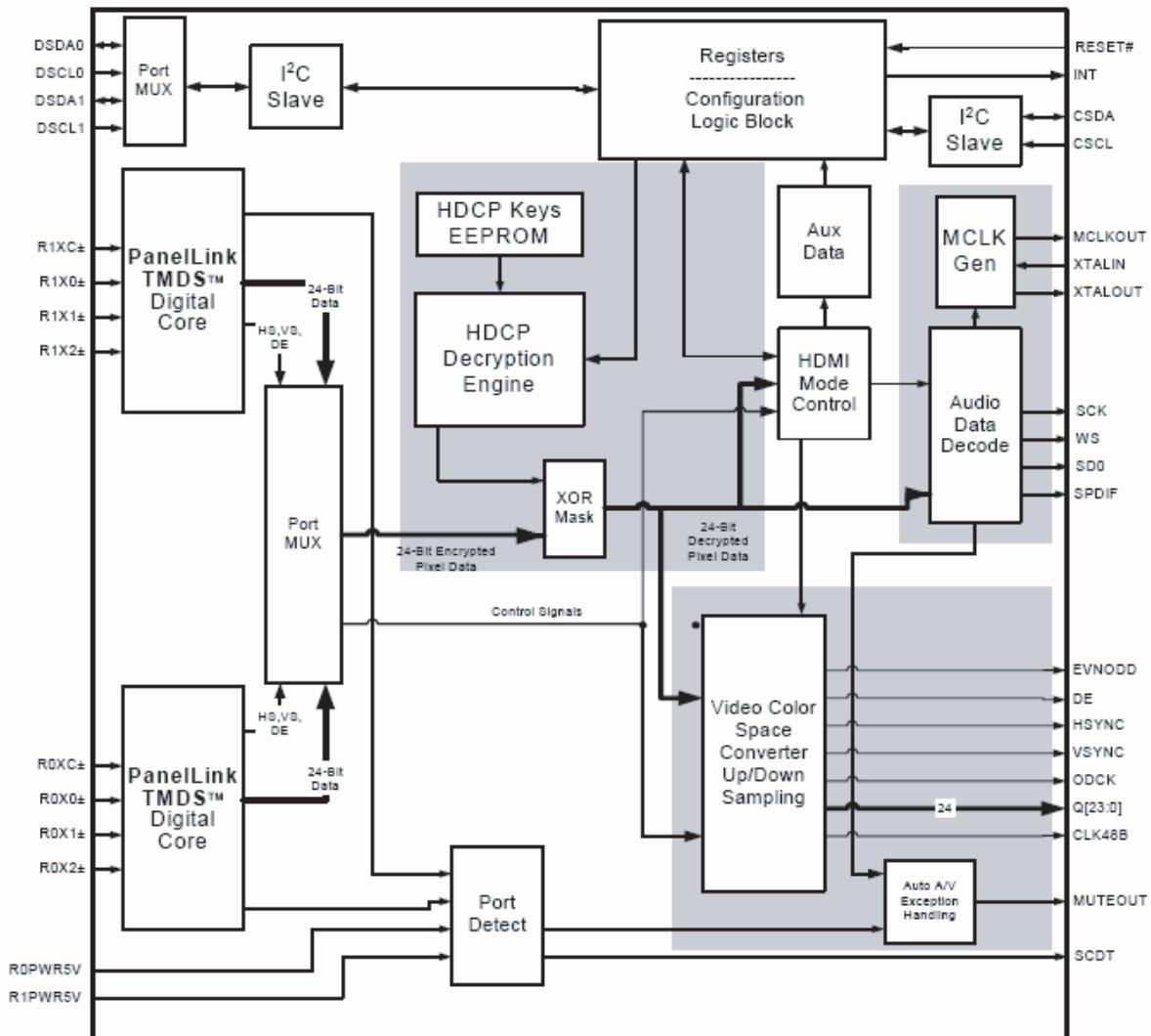
D

E

F

## ● Block Diagram

A



B

C

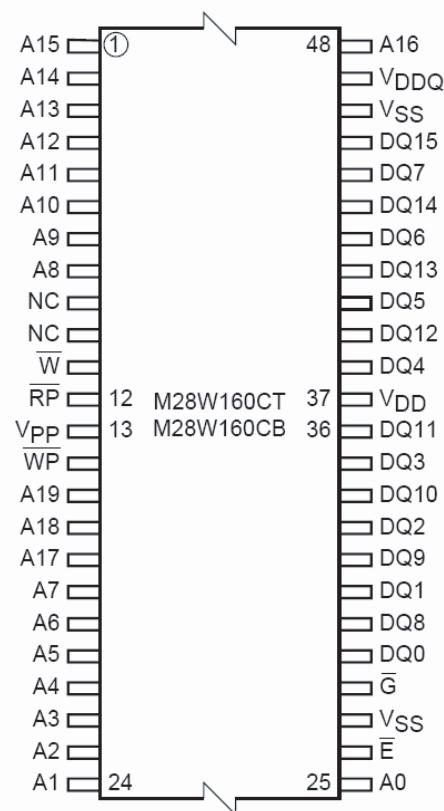
D

E

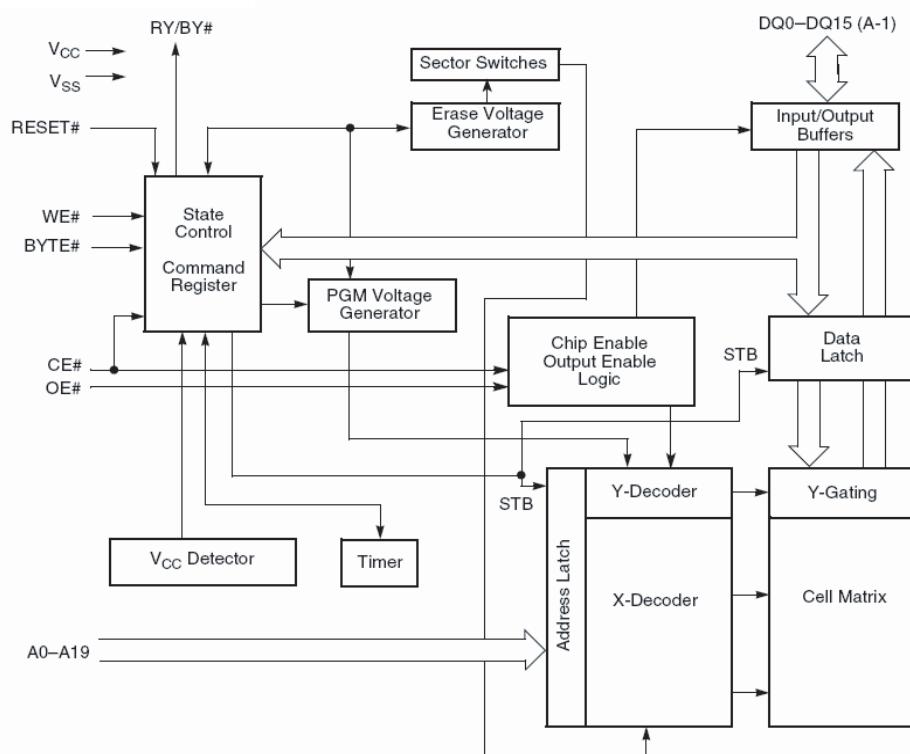
F

## ■ M28W160CT-70N6E (MAIN ASSY: U11)

### ● Pin Arrangement



### ● Block Diagram



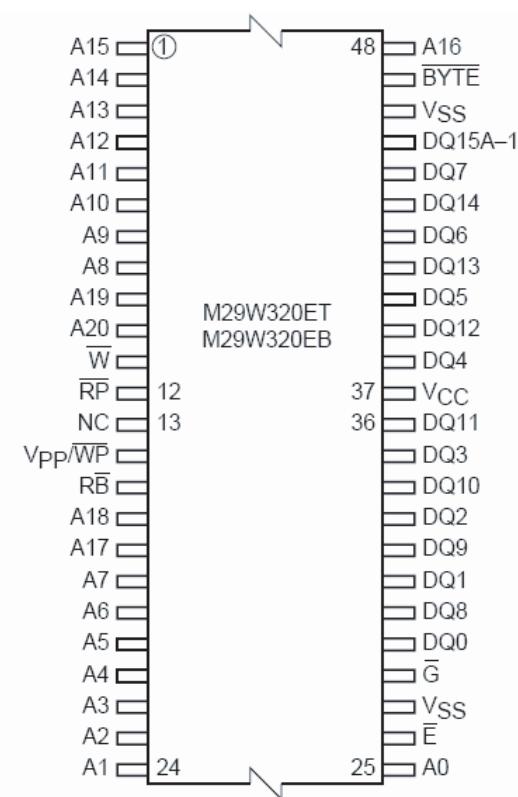
## ■ M29W320ET-70N6E (MAIN ASSY: U30)

A

### ● Pin Arrangement

B

C

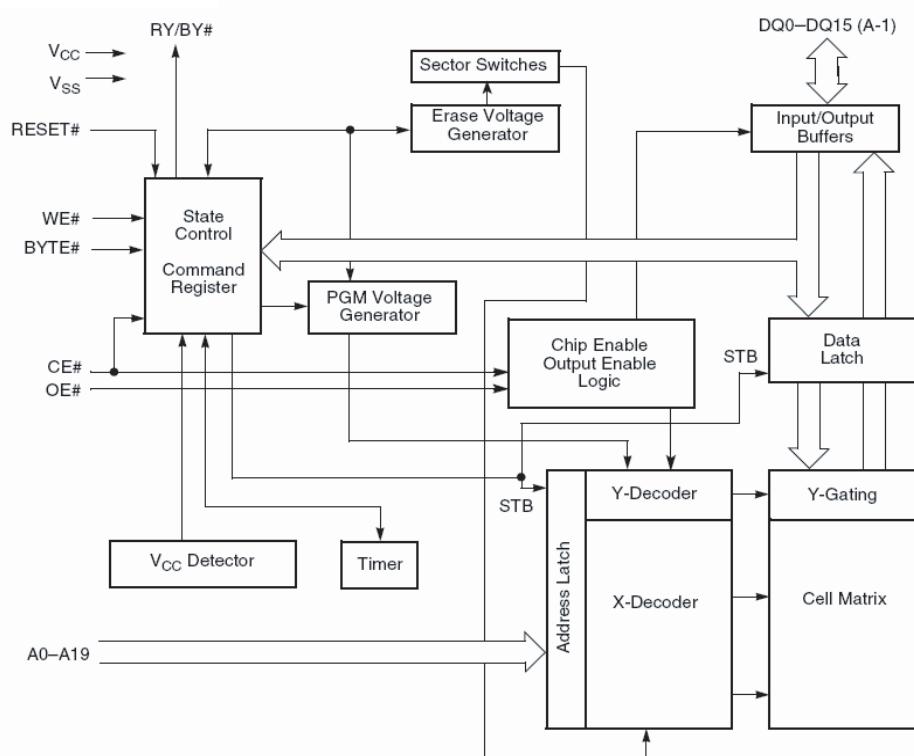


### ● Block Diagram

D

E

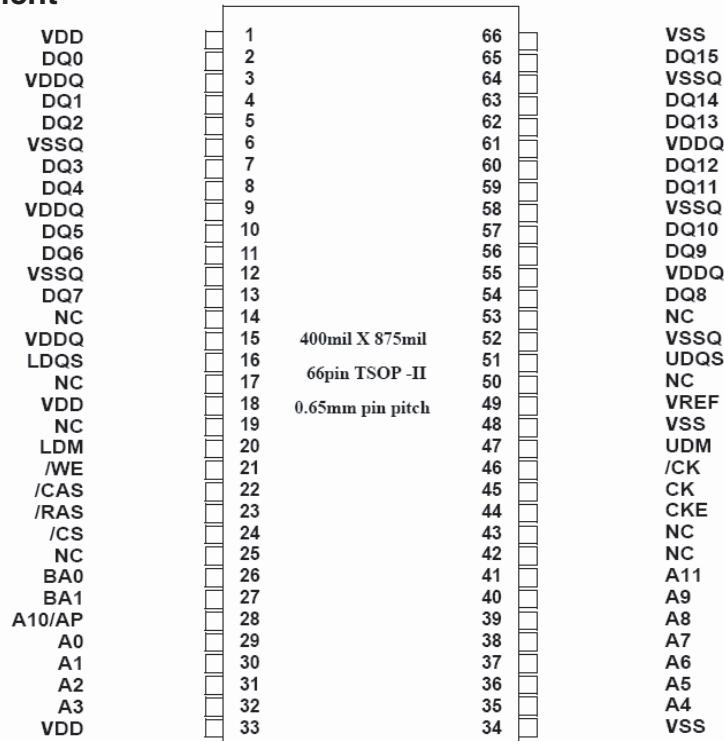
F



## ■ HY5DU281622ETP (MAIN ASSY: U9, U10)

A

### ● Pin Arrangement



B

C

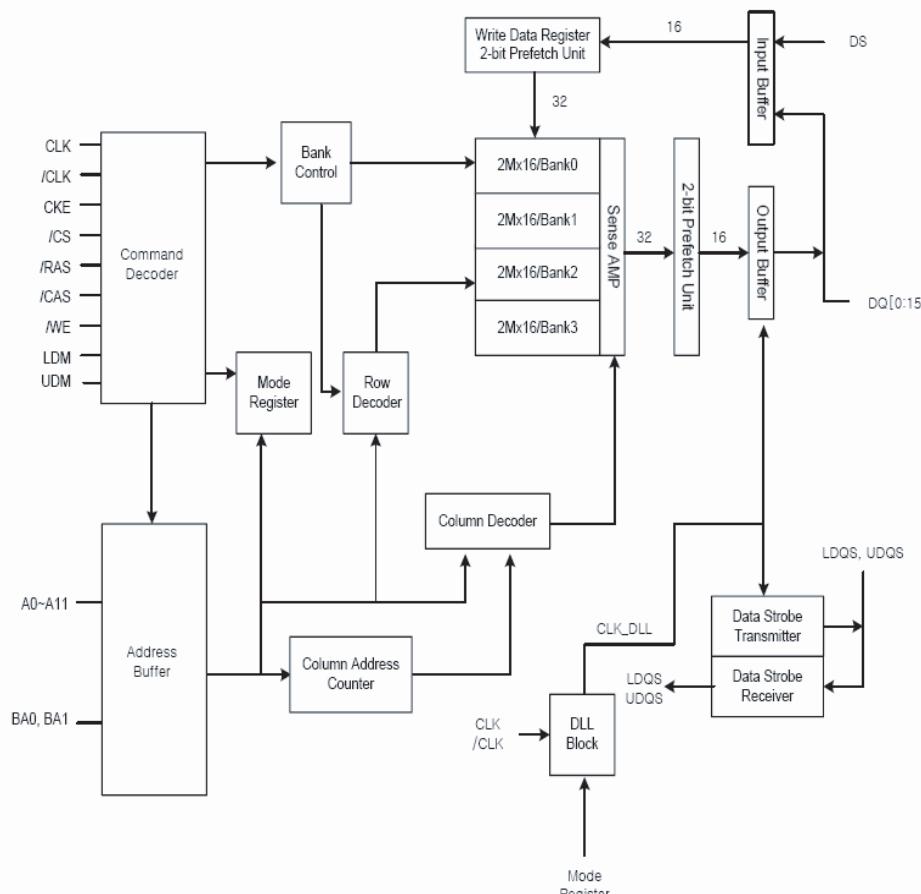
D

E

F

### ● Block Diagram

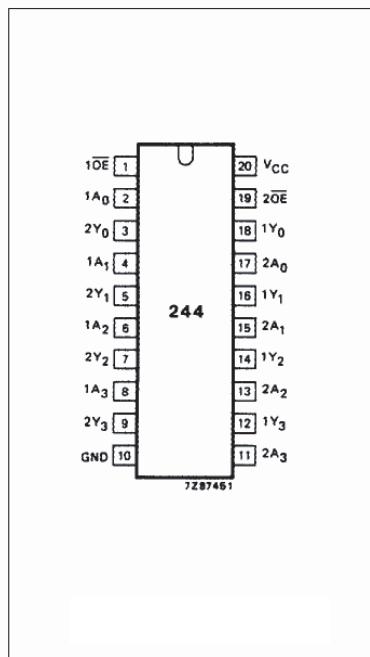
4Banks x 2Mbit x 16 I/O Double Data Rate Synchronous DRAM



## ■ 74HCT244 (MAIN ASSY: U16)

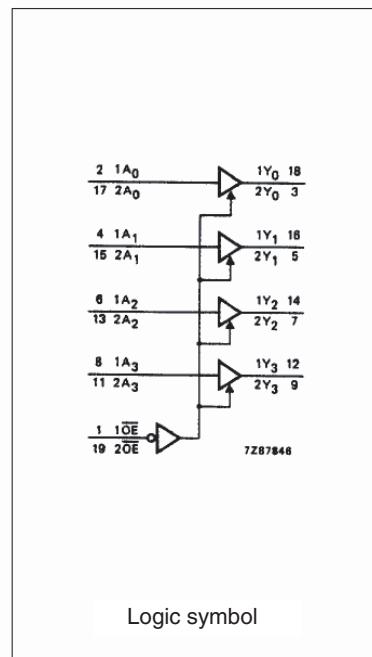
A

### ● Pin Arrangement

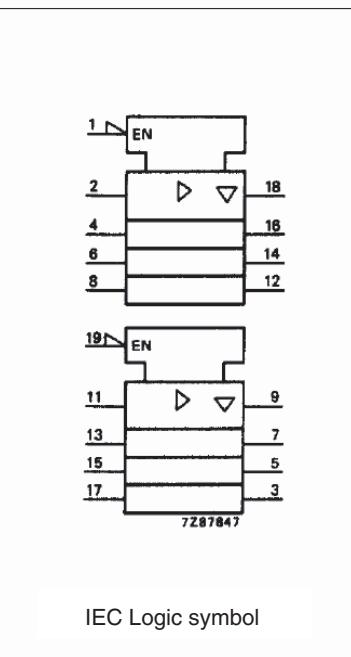


B

### ● Block Diagram

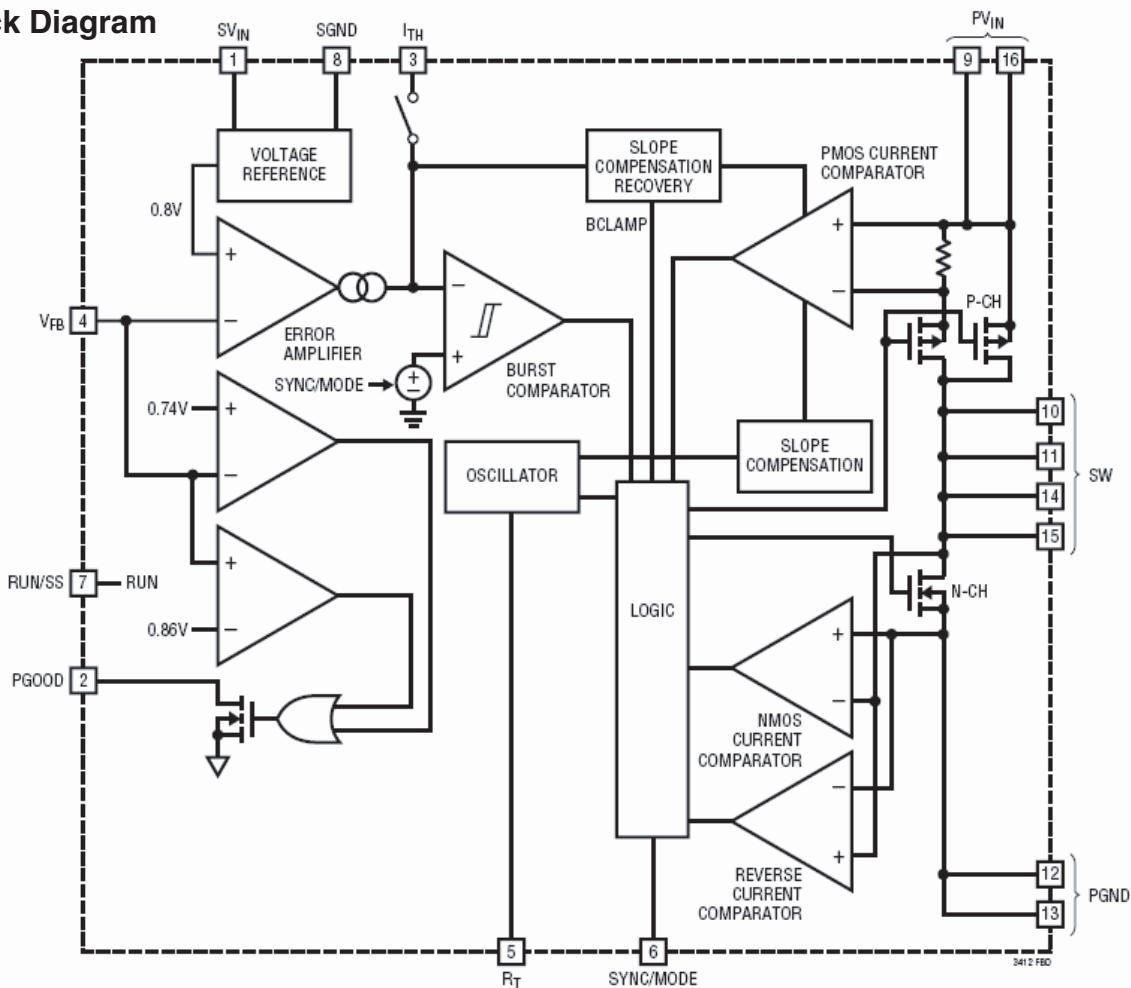


C



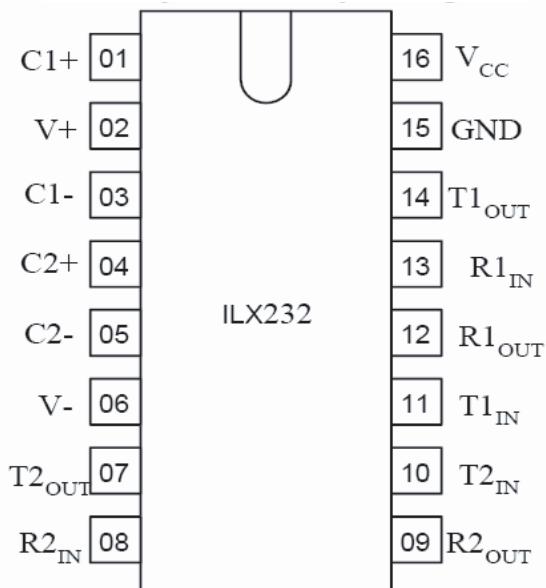
## ■ LTC3412EFE (MAIN ASSY: U52,U53)

### ● Block Diagram

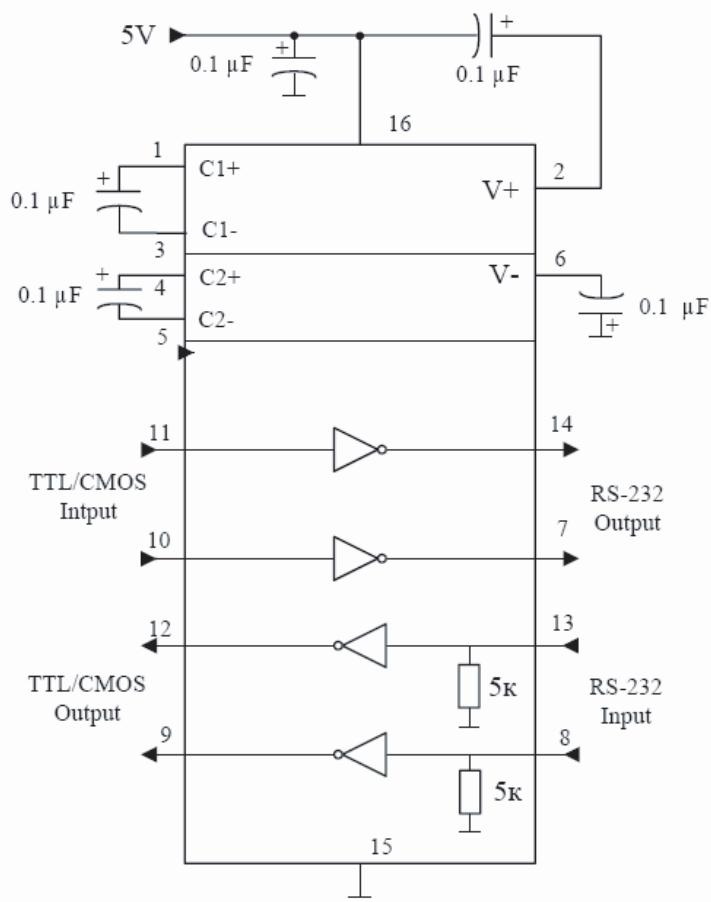


## ■ ILX232 (MAIN ASSY: U15)

### ● Pin Arrangement

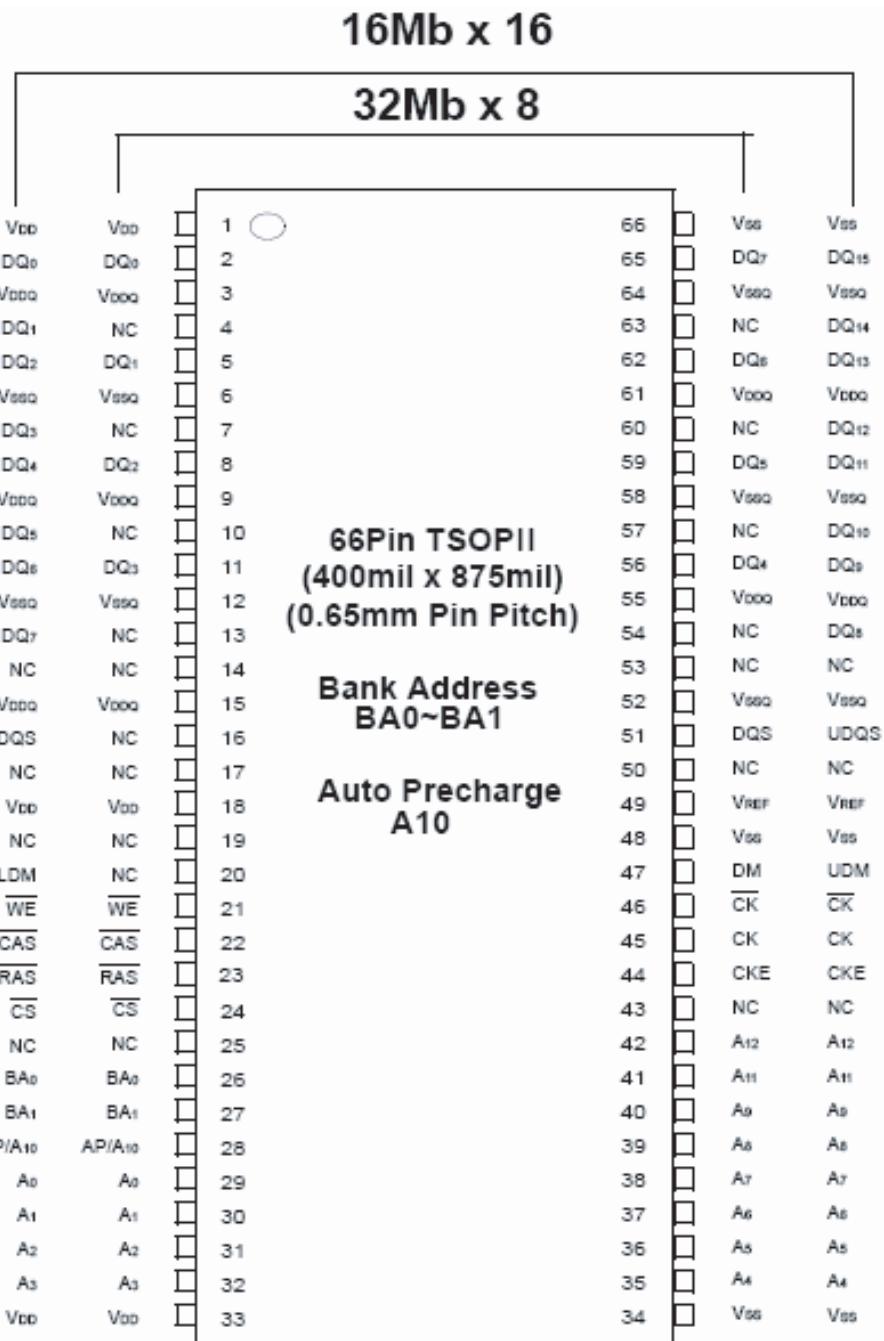


### ● Block Diagram

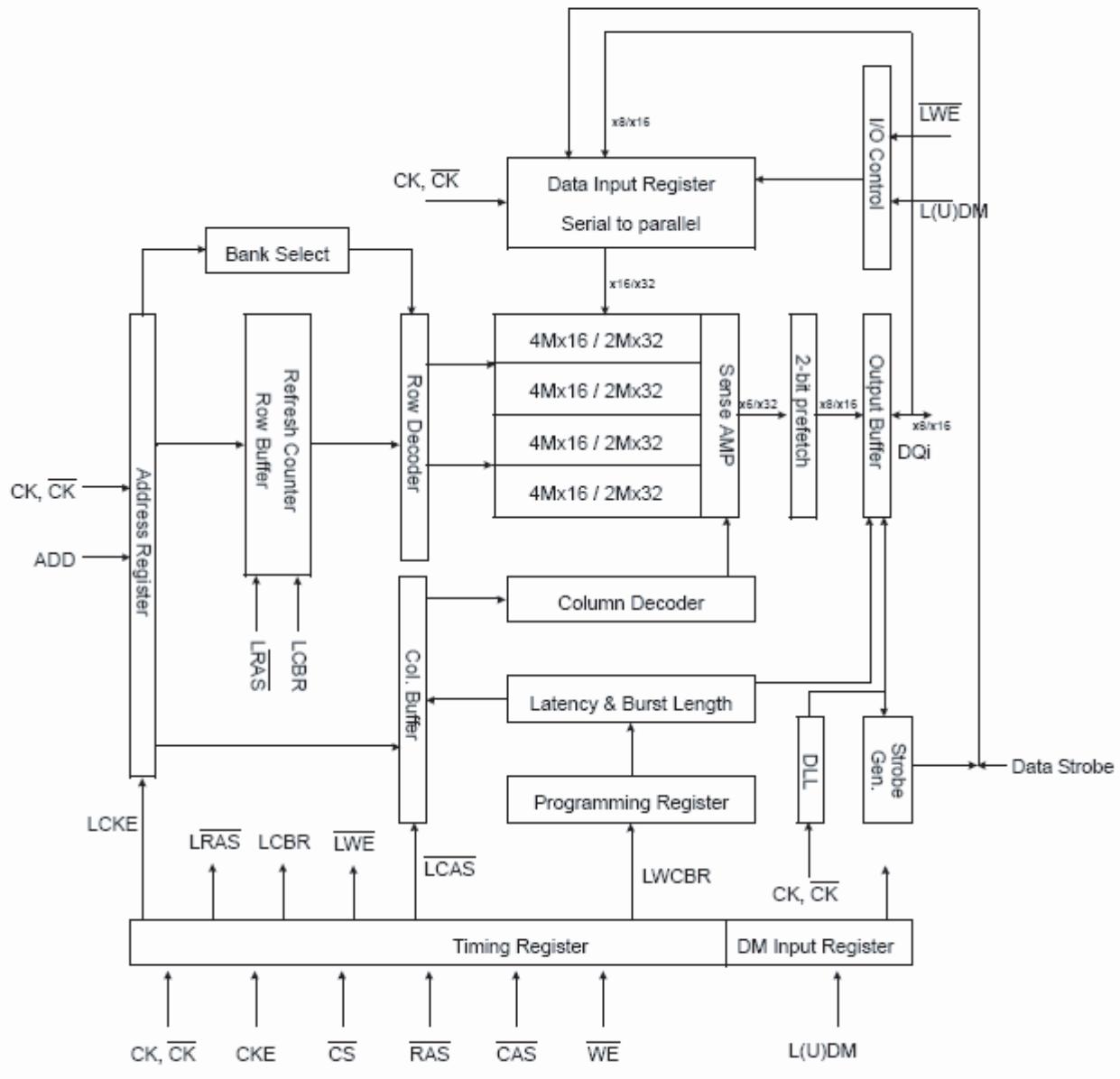


■ K4H561638H-UCB3 (MAIN ASSY: U3, U4)

### ● Pin Arrangement



## ● Block Diagram



A

B

C

D

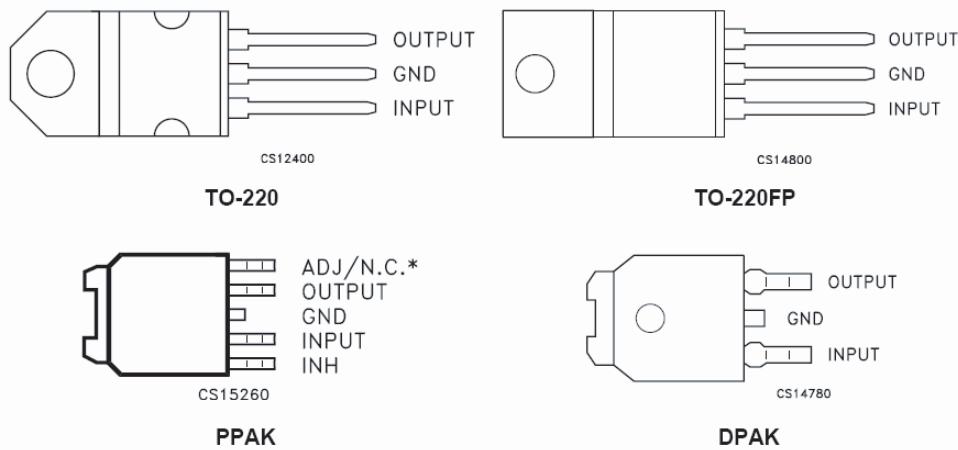
E

F

## ■ LD29150PT/P-PAK (MAIN ASSY: U47- U49)

A

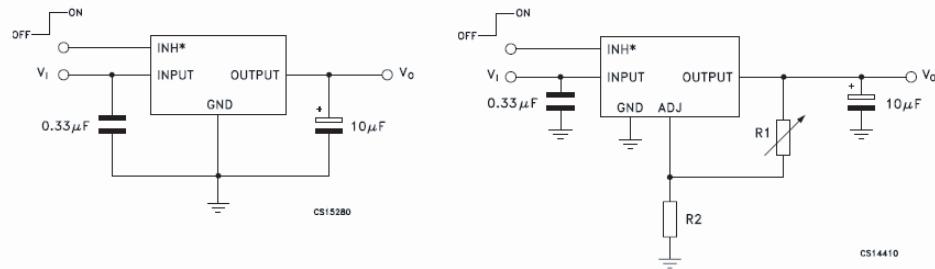
### ● Pin Arrangement



Not connected for fixed version.

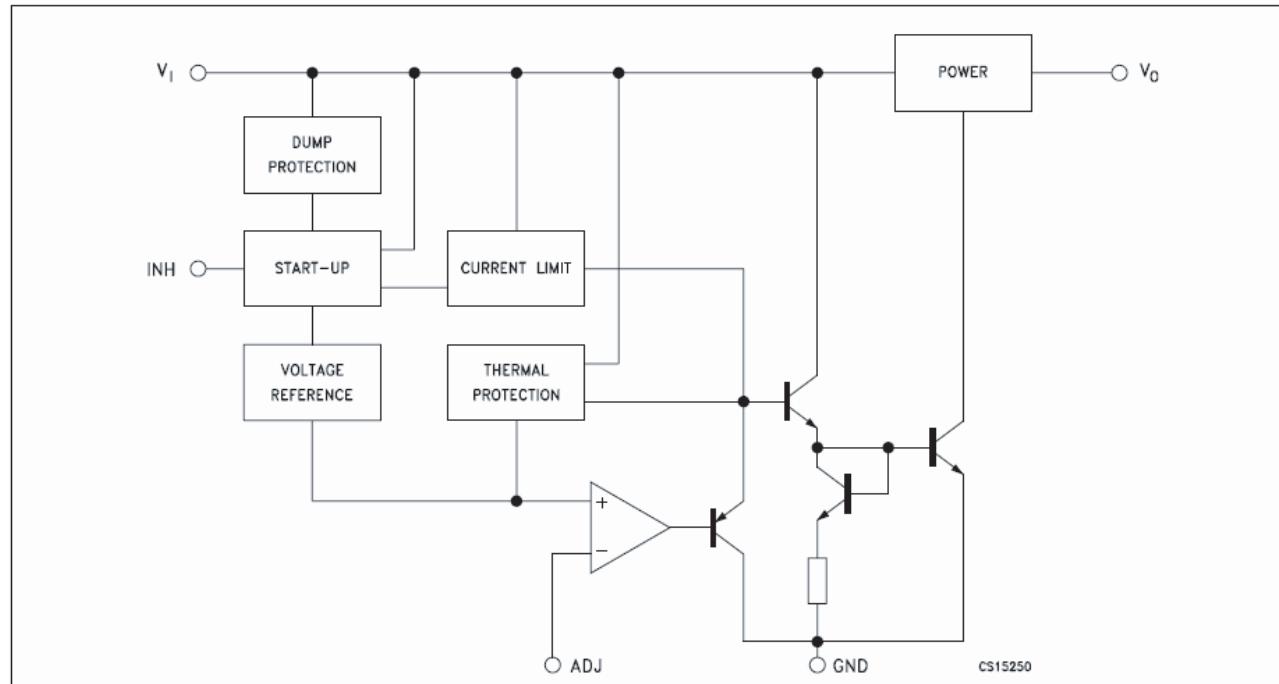
### Application Circuit

C



### ● Block Diagram

D

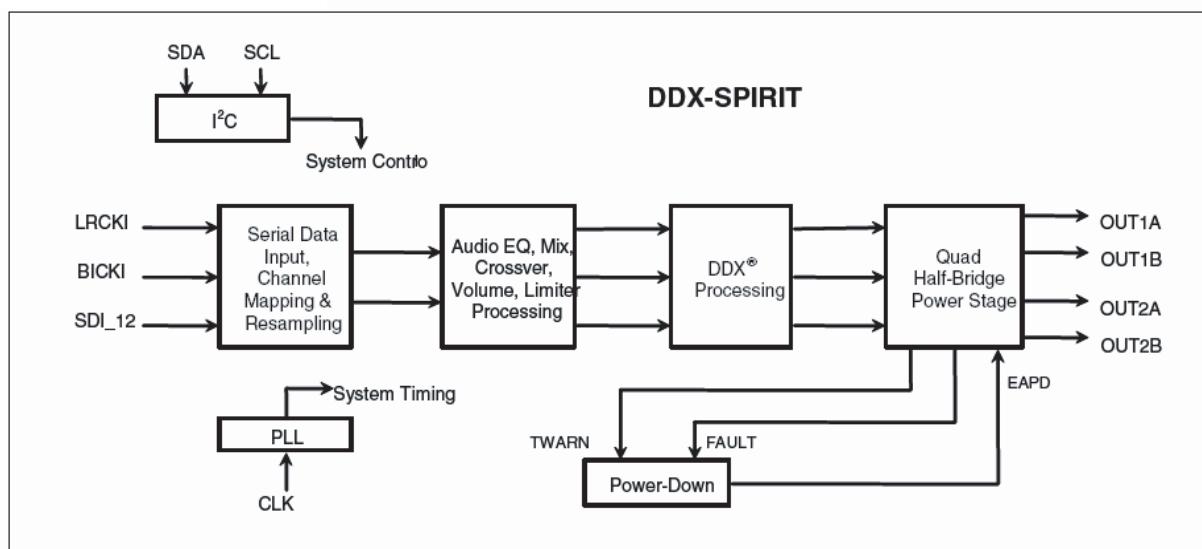


## ■ STA323W13TR (MAIN ASSY: U12)

### ● Pin Arrangement

N.C.	1	36	VCC SIGN
N.C.	2	35	VSS
OUT2B	3	34	VDD
Vcc2B	4	33	GND
N.C.	5	32	BICKI
GND2B	6	31	LRCKI
GND2A	7	30	SDI
Vcc2A	8	29	VDDA
OUT2A	9	28	GNDA
OUT1B	10	27	XTI
Vcc1B	11	26	PLL FILTER
GND1B	12	25	RES
GND1A	13	24	SDA
N.C.	14	23	SCL
Vcc1A	15	22	RESET
OUT1A	16	21	CONFIG
GNDCLEAN	17	20	VL
GNDREG	18	19	VDD REG

### ● Block Diagram



## ■ M41T81 (MAIN ASSY: U6)

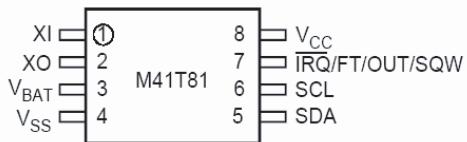
A

### ● Pin Arrangement

#### FEATURES SUMMARY

- 2.0 TO 5.5V CLOCK OPERATING VOLTAGE
- COUNTERS FOR TENTHS/HUNDREDTHS OF SECONDS, SECONDS, MINUTES, HOURS, DAY, DATE, MONTH, YEAR, and CENTURY
- AUTOMATIC SWITCH-OVER and DESELECT CIRCUITRY
- SERIAL INTERFACE SUPPORTS I<sup>2</sup>C BUS (400KHz PROTOCOL)
- PROGRAMMABLE ALARM and INTERRUPT FUNCTION (valid even during Battery Back-up Mode)
- WATCHDOG TIMER
- LOW OPERATING CURRENT OF 400µA
- BATTERY BACK-UP NOT RECOMMENDED FOR 3.0V APPLICATIONS (CAPACITOR BACK-UP ONLY)
- BATTERY OR SUPER-CAP BACK-UP
- OPERATING TEMPERATURE OF -40 TO 85°C
- ULTRA-LOW BATTERY SUPPLY CURRENT OF 1µA
- PACKAGE OPTIONS INCLUDE A 28-LEAD or 18-LEAD EMBEDDED CRYSTAL SOIC

B

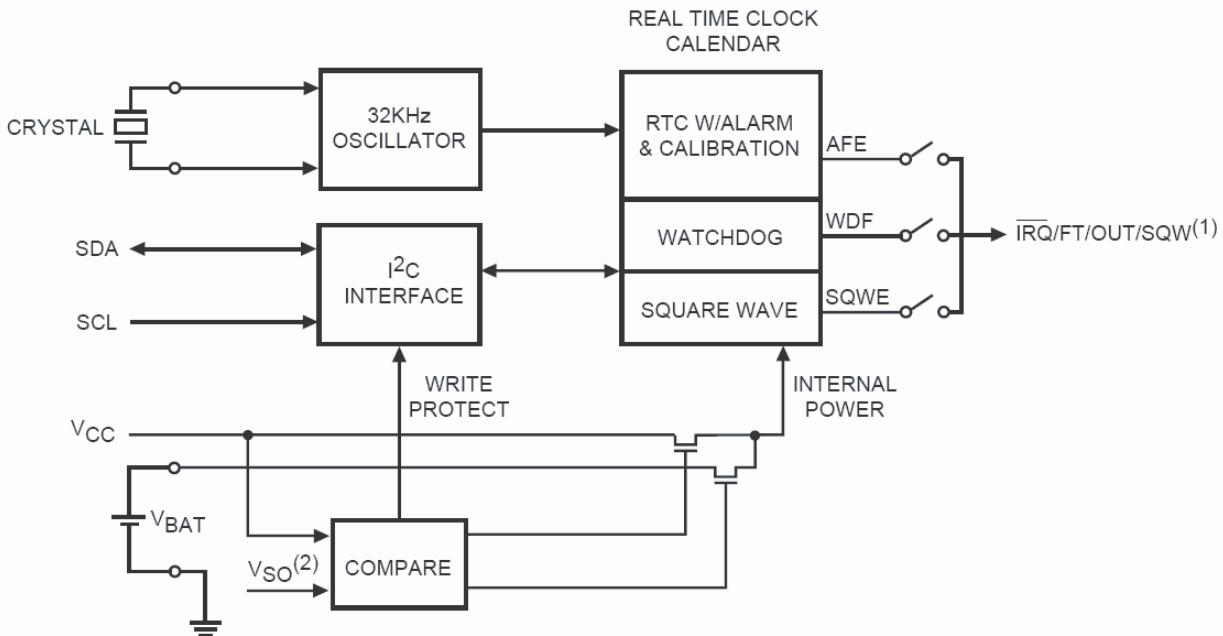


AI04769

C

### ● Block Diagram

D



E

F

## ■ LM35CZ (SUB THERMIAL SENSOR ASSY: U44)

### ● Pin Arrangement

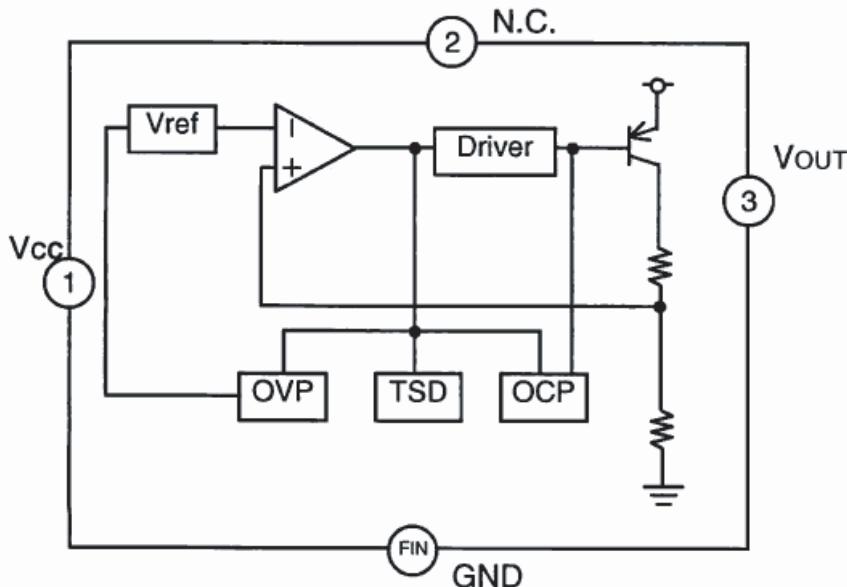


**FIGURE 1. Basic Centigrade Temperature Sensor  
(+2 $^{\circ}\text{C}$  to +150 $^{\circ}\text{C}$ )**

Order Number LM35CZ,  
LM35CAZ or LM35DZ  
See NS Package Number Z03A

## ■ BA05CCOFP (MAIN ASSY: U22, U23, U27)

### ● Block Diagram

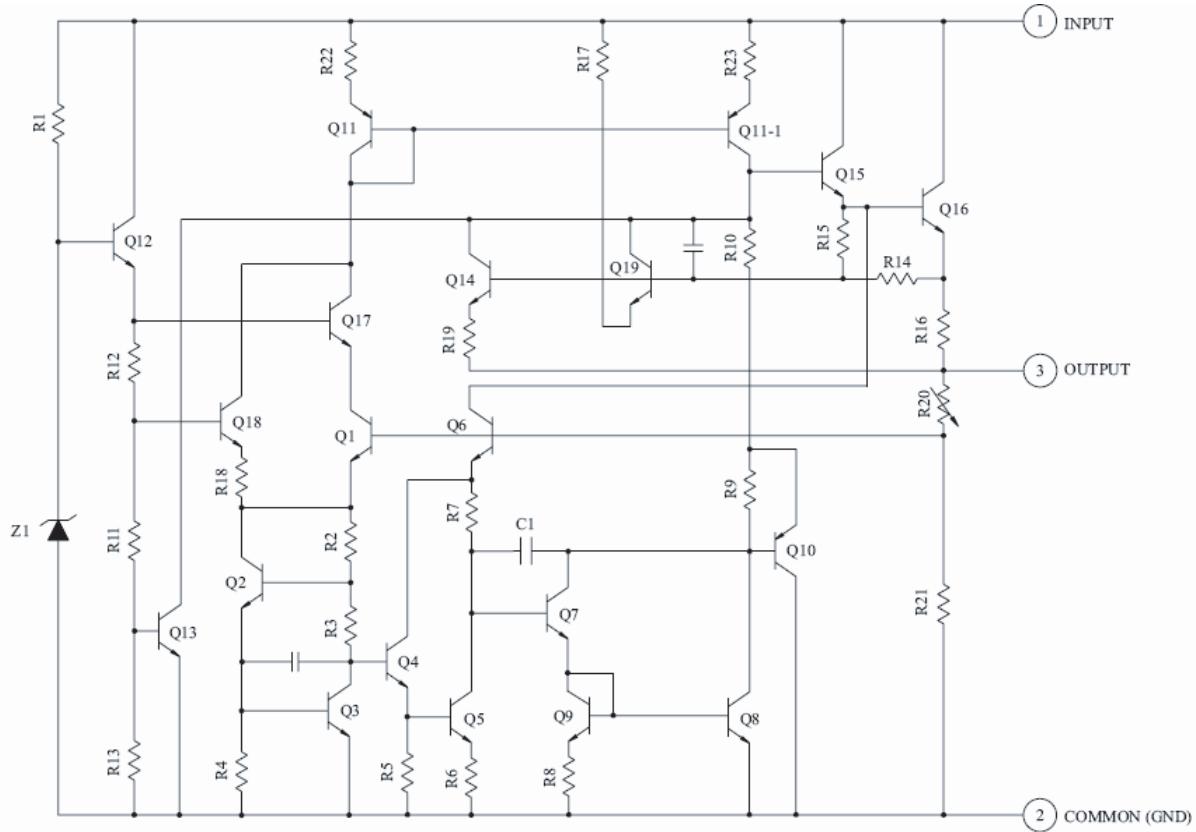


### ● Pin Function

Pin Number	Pin Name
1	V <sub>cc</sub>
2	N.C.
3	V <sub>OUT</sub>
FIN	GND

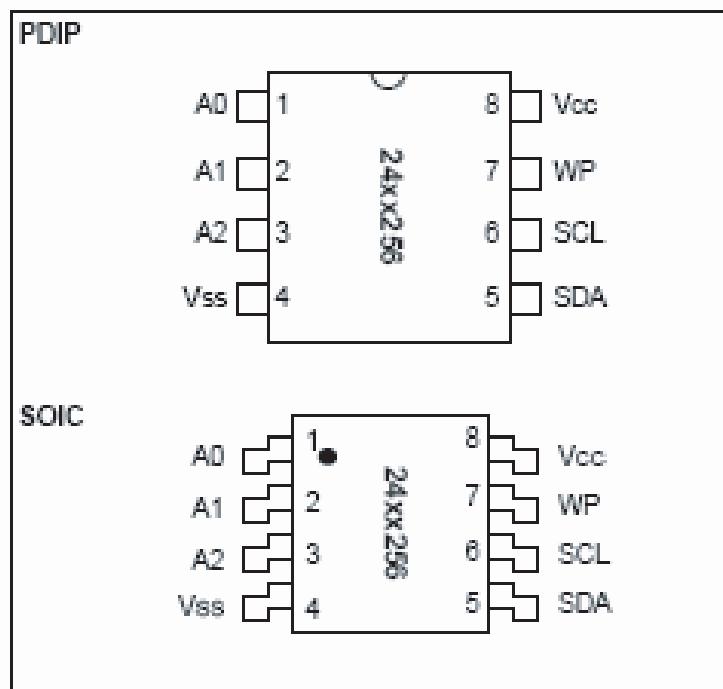
## ■ KIA7809AF (MAIN ASSY: U26)

### ● Block Diagram

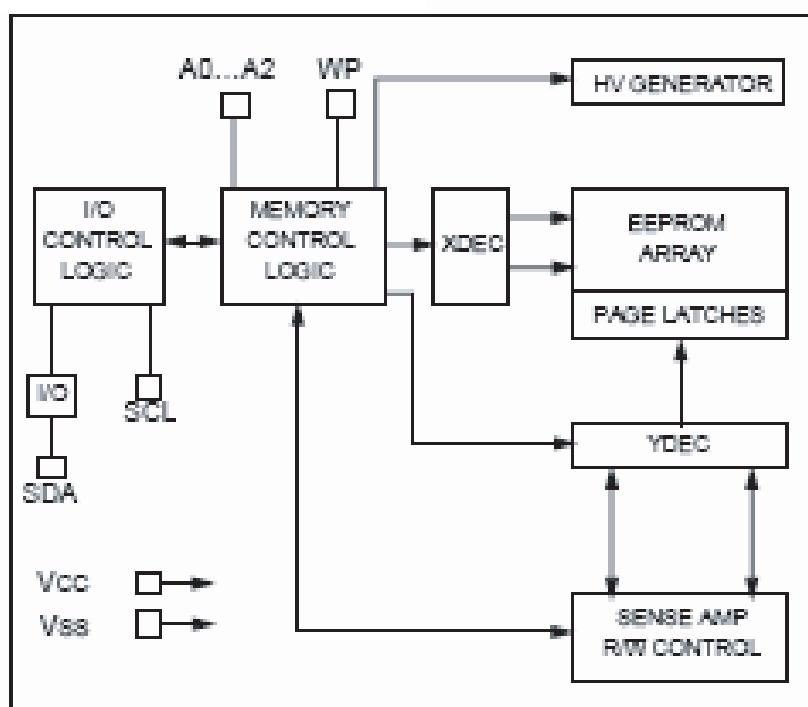


## ■ 24LC256 (MAIN ASSY: U7)

### ● Pin Arrangement



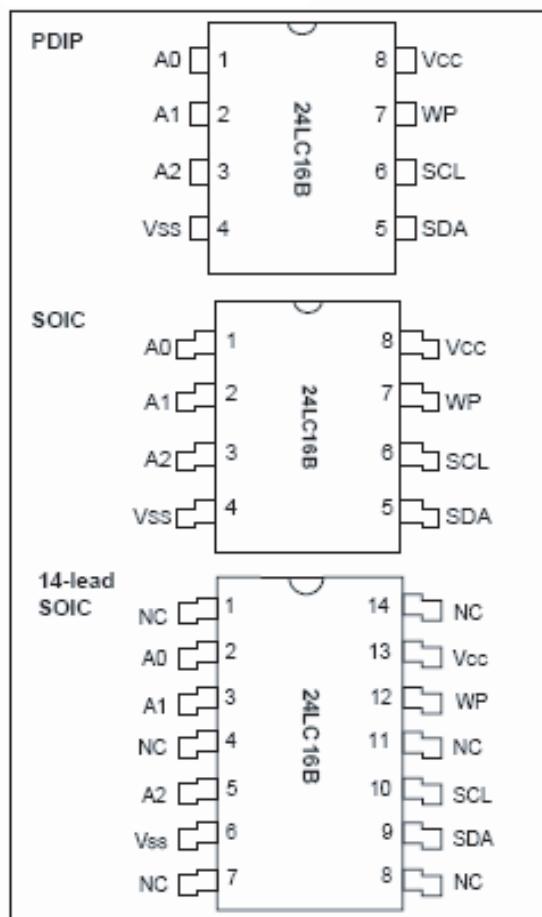
### ● Block Diagram



## ■ 24LC16B (MAIN ASSY: U18, U44)

A

- Pin Arrangement

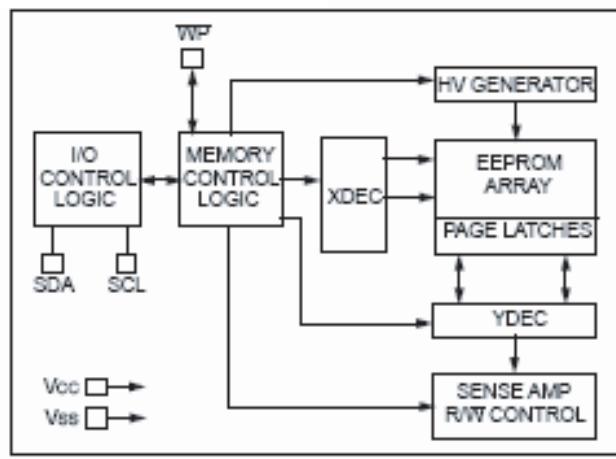


B

C

D

- Block Diagram

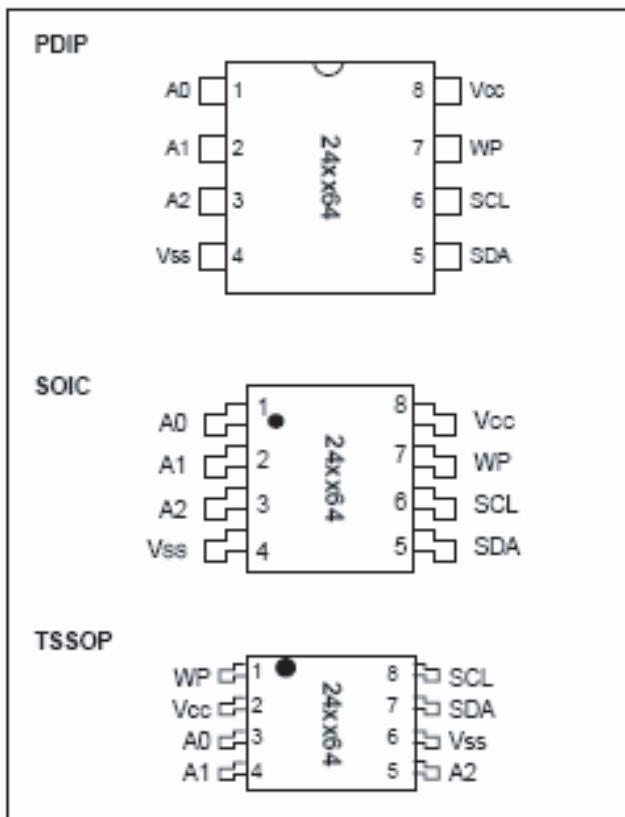


E

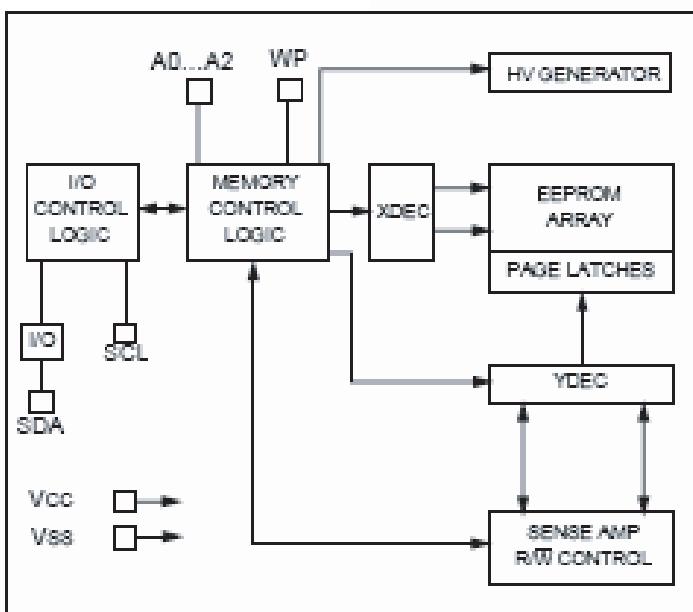
F

## ■ 24LC64T-I/SN (MAIN ASSY: U31)

### ● Pin Arrangement



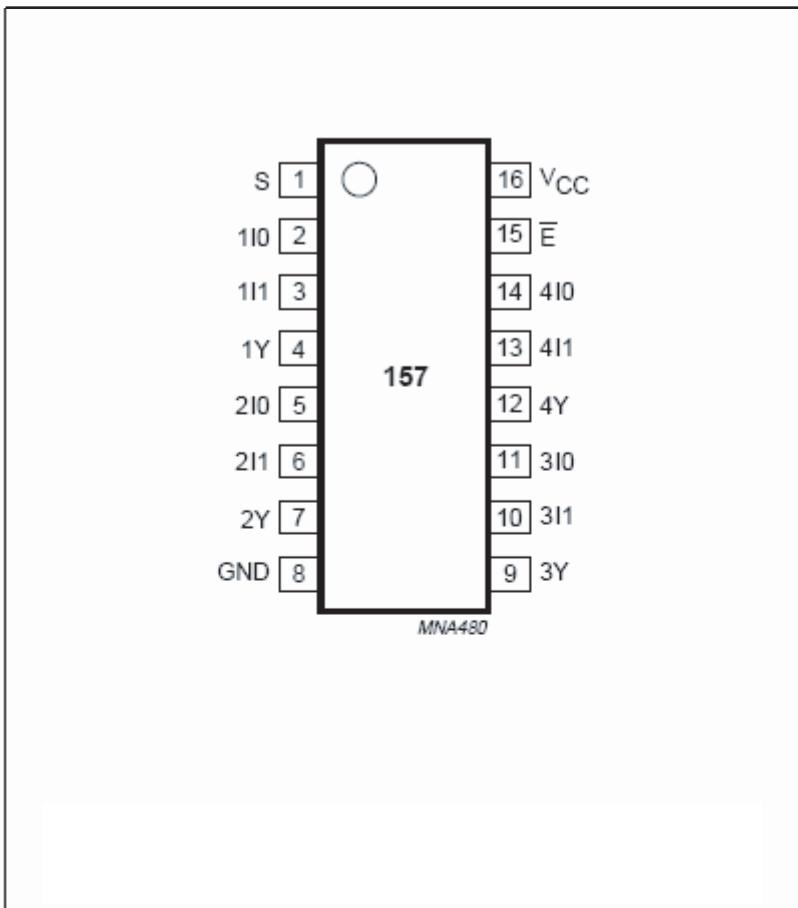
### ● Block Diagram



## ■ 74LVC157AD (MAIN ASSY: U46)

A

### ● Pin Arrangement



B

C

D

E

F

